



<41 MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				509202	518598	528000	6.5	0.0
Frequency (MHz)				2546.01	2592.99	2640		
100	PI/2 BPSK	1	1	5.98	5.92	5.93		
100	PI/2 BPSK	1	137	5.52	5.66	5.55	6.5	0.0
100	PI/2 BPSK	1	271	5.58	5.64	5.54		
100	PI/2 BPSK	135	0	5.94	5.68	5.50		
100	PI/2 BPSK	135	69	5.53	5.53	5.52	6.5	0.0
100	PI/2 BPSK	135	138	5.52	5.65	5.66		
100	PI/2 BPSK	270	0	5.69	5.67	5.26		
100	QPSK	1	1	5.54	5.50	5.61	6.5	0.0
100	QPSK	1	137	5.65	5.53	5.54		
100	QPSK	1	271	5.65	5.61	5.55		
100	QPSK	135	0	5.67	5.66	5.57	6.5	0.0
100	QPSK	135	69	5.55	5.70	5.63		
100	QPSK	135	138	5.67	5.64	5.53		
100	QPSK	270	0	5.70	5.60	5.60	6.5	0.0
100	16QAM	1	1	5.59	5.66	5.65	6.5	0.0
100	64QAM	1	1	5.64	5.63	5.69	6.5	0.0
100	256QAM	1	1	5.68	5.50	5.56	6.5	0.0
Channel				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2541	2592.99	2644.98		
90	PI/2 BPSK	1	1	5.54	5.51	5.70	6.5	0.0
Channel				507204	518598	529998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2536.02	2592.99	2649.99		
80	PI/2 BPSK	1	1	5.55	5.65	5.51	6.5	0.0
Channel				505200	518598	531996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2526	2592.99	2659.98		
60	PI/2 BPSK	1	1	5.62	5.63	5.50	6.5	0.0
Channel				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2521.02	2592.99	2664.99		
50	PI/2 BPSK	1	1	5.54	5.50	5.64	6.5	0.0
Channel				503202	518598	534000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2516.01	2592.99	2670		
40	PI/2 BPSK	1	1	5.51	5.69	5.61	6.5	0.0
Channel				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2506.02	2592.99	2679.99		
20	PI/2 BPSK	1	1	5.61	5.56	5.60	6.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				509202	518598	528000	6.5	0.0
Frequency (MHz)				2546.01	2592.99	2640		
100	QPSK	1	1	5.11	5.06	5.07	6.5	0.0



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DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000	12.5	0.0
Frequency (MHz)				1720	1745	1770		
20	PI/2 BPSK	1	1	12.13	12.12	12.01		
20	PI/2 BPSK	1	53	11.23	11.15	11.16	12.5	0.0
20	PI/2 BPSK	1	104	11.16	11.22	11.09		
20	PI/2 BPSK	50	0	12.06	11.76	11.85		
20	PI/2 BPSK	50	28	11.18	11.20	11.22	12.5	0.0
20	PI/2 BPSK	50	56	11.12	11.08	11.19		
20	PI/2 BPSK	100	0	11.53	11.25	11.08		
20	QPSK	1	1	11.09	11.25	11.12	12.5	0.0
20	QPSK	1	53	11.20	11.20	11.17		
20	QPSK	1	104	11.19	11.05	11.23		
20	QPSK	50	0	11.24	11.05	11.18	12.5	0.0
20	QPSK	50	28	11.15	11.09	11.19		
20	QPSK	50	56	11.25	11.22	11.11		
20	QPSK	100	0	11.09	11.22	11.14	12.5	0.0
20	16QAM	1	1	11.25	11.23	11.05	12.5	0.0
20	64QAM	1	1	11.23	11.18	11.08	12.5	0.0
20	256QAM	1	1	11.12	11.20	11.11	12.5	0.0
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	PI/2 BPSK	1	1	11.25	11.09	11.15	12.5	0.0
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	PI/2 BPSK	1	1	11.15	11.20	11.10	12.5	0.0
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	PI/2 BPSK	1	1	11.13	11.08	11.10	12.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000	12.5	0.0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	1	11.21	11.36	11.27	12.5	0.0



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DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	PI/2 BPSK	1	1	11.67	11.46	11.23	12.0	0.0
20	PI/2 BPSK	1	53	10.17	10.20	10.85		
20	PI/2 BPSK	1	104	11.24	11.12	11.04		
20	PI/2 BPSK	50	0	11.41	10.74	10.23	12.0	0.0
20	PI/2 BPSK	50	28	11.40	11.25	10.97		
20	PI/2 BPSK	50	56	11.34	11.25	11.09		
20	PI/2 BPSK	100	0	11.44	11.17	10.60	12.0	0.0
20	QPSK	1	1	11.32	10.74	10.21	12.0	0.0
20	QPSK	1	53	11.34	11.21	10.91		
20	QPSK	1	104	11.17	11.10	11.02		
20	QPSK	50	0	11.38	11.01	10.40	12.0	0.0
20	QPSK	50	28	11.30	10.71	10.12		
20	QPSK	50	56	11.14	11.18	10.80		
20	QPSK	100	0	11.12	10.99	10.88	12.0	0.0
20	16QAM	1	1	11.37	10.90	10.23	12.0	0.0
20	64QAM	1	1	11.00	10.87	10.68	12.0	0.0
20	256QAM	1	1	10.83	10.64	10.38	12.0	0.0
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	PI/2 BPSK	1	1	11.36	11.25	11.33	12.0	0.0
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	PI/2 BPSK	1	1	11.18	11.15	11.05	12.0	0.0
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	PI/2 BPSK	1	1	11.05	11.14	11.11	12.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	1	11.11	11.06	11.07	12.0	0.0



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DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600	11.5	0.0
Frequency (MHz)				673	680.5	688		
20	PI/2 BPSK	1	1	10.49	10.65	10.55		
20	PI/2 BPSK	1	53	10.35	10.26	10.14	11.5	0.0
20	PI/2 BPSK	1	104	10.38	10.22	10.24		
20	PI/2 BPSK	50	0	10.30	10.47	10.38		
20	PI/2 BPSK	50	28	10.26	10.15	10.26	11.5	0.0
20	PI/2 BPSK	50	56	10.28	10.22	10.27		
20	PI/2 BPSK	100	0	10.05	10.07	10.12		
20	QPSK	1	1	10.20	10.04	10.05	11.5	0.0
20	QPSK	1	53	10.18	10.18	10.06		
20	QPSK	1	104	10.11	10.00	10.18		
20	QPSK	50	0	10.09	10.20	10.10	11.5	0.0
20	QPSK	50	28	10.14	10.08	10.03		
20	QPSK	50	56	10.15	10.10	10.01		
20	QPSK	100	0	10.12	10.15	10.17	11.5	0.0
20	16QAM	1	1	10.08	10.20	10.12	11.5	0.0
20	64QAM	1	1	10.18	10.10	10.04	11.5	0.0
20	256QAM	1	1	10.16	10.18	10.13	11.5	0.0
Channel				134100	136100	138100	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	PI/2 BPSK	1	1	10.09	10.08	10.09	11.5	0.0
Channel				133600	136100	138600	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	680.5	693		
10	PI/2 BPSK	1	1	10.02	10.06	10.11	11.5	0.0
Channel				133100	136100	139100	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	680.5	695.5		
5	PI/2 BPSK	1	1	10.01	10.07	10.18	11.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600	11.5	0.0
Frequency (MHz)				673	680.5	688		
20	QPSK	1	1	10.21	10.26	10.17	11.5	0.0



14. WLAN/BT Output Power (Unit: dBm)

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is $< 1.6\text{W/kg}$ and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band or when MIMO mode was not performed, due to for each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode. Additional output power measurements were not necessary.
4. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
5. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
6. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
7. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is $\leq 0.4\text{ W/kg}$, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is $> 0.4\text{ W/kg}$, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is $\leq 0.8\text{ W/kg}$ or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is $> 0.8\text{ W/kg}$, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is $\leq 1.2\text{ W/kg}$ or all required channels are tested.
8. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
9. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
10. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
11. When SAR testing for 802.11ax is required
 - a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
 - b. Otherwise, consider the fully allocated channel for SAR testing
 - c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel



<WLAN Output Power>

2.4GHz WLAN				Ant 1			Ant 2		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	15.10	15.50	100.00	15.65	16.00	100.00
		6	2437	15.23	15.50		15.68	16.00	
		11	2462	15.13	15.50		15.84	16.00	
	802.11g 6Mbps	1	2412	Not Required	15.50	Not Required	Not Required	16.00	Not Required
		6	2437		15.50			16.00	
		11	2462		15.50			16.00	
	802.11n-HT20 MCS0	1	2412		15.50			16.00	
		6	2437		15.50			16.00	
		11	2462		15.50			16.00	
802.11n-HT40 MCS0	3	2422	15.50		16.00				
	6	2437	15.50		16.00				
	9	2452	15.50		16.00				
802.11ax-HE20 MCS0	1	2412	15.50		16.00				
	6	2437	15.50	16.00					
	11	2462	15.50	16.00					
802.11ax-HE40 MCS0	3	2422	15.50	16.00					
	6	2437	15.50	16.00					
	9	2452	15.50	16.00					

5.2GHz WLAN				Ant 1			Ant 2		
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	36	5180	Not Required	13.50	Not Required	Not Required	14.00	Not Required
		40	5200		13.50			14.00	
		44	5220		13.50			14.00	
		48	5240		13.50			14.00	
	802.11n-HT20 MCS0	36	5180		13.50			14.00	
		40	5200		13.50			14.00	
		44	5220		13.50			14.00	
	802.11n-HT40 MCS0	38	5190		13.50			14.00	
		46	5230		13.50			14.00	
	802.11ac-VHT20 MCS0	36	5180		13.50			14.00	
		40	5200		13.50			14.00	
		44	5220		13.50			14.00	
	802.11ac-VHT40 MCS0	38	5190		13.50			14.00	
		46	5230		13.50			14.00	
	802.11ac-VHT80 MCS0	42	5210		13.50			14.00	
	802.11ax-HE20 MCS0	36	5180		13.50			14.00	
		40	5200		13.50			14.00	
44		5220	13.50		14.00				
48		5240	13.50	14.00					
802.11ax-HE40 MCS0	38	5190	13.50	14.00					
	46	5230	13.50	14.00					
802.11ax-HE80 MCS0	42	5210	13.50	14.00					



5.3GHz WLAN				Ant 1			Ant 2		
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	13.50	Not Required	Not Required	14.00
56			5280	13.50		14.00			
60			5300	13.50		14.00			
64			5320	13.50		14.00			
802.11n-HT20 MCS0		52	5260	13.50		14.00			
		56	5280	13.50		14.00			
		60	5300	13.50		14.00			
		64	5320	13.50		14.00			
802.11n-HT40 MCS0		54	5270	13.50		14.00			
		62	5310	13.50		14.00			
802.11ac-VHT20 MCS0		52	5260	13.50		14.00			
		56	5280	13.50		14.00			
		60	5300	13.50		14.00			
		64	5320	13.50		14.00			
802.11ac-VHT40 MCS0		54	5270	13.50		14.00			
		62	5310	13.50		14.00			
802.11ac-VHT80 MCS0		58	5290	13.03	13.50	98.00	13.30	14.00	98.00
802.11ac-VHT160 MCS0		50	5250	13.12	13.50	98.00	13.48	14.00	98.00
802.11ax-HE20 MCS0		52	5260	Not Required	13.50	Not Required	Not Required	14.00	Not Required
		56	5280		13.50			14.00	
	60	5300	13.50		14.00				
	64	5320	13.50		14.00				
802.11ax-HE40 MCS0	54	5270	13.50		14.00				
	62	5310	13.50		14.00				
802.11ax-HE80 MCS0	58	5290	13.50		14.00				
802.11ax-HE160 MCS0	50	5250	13.50		14.00				



5.5GHz WLAN				Ant 1			Ant 2		
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	13.00	Not Required	Not Required	13.50
116			5580	13.00		13.50			
124			5620	13.00		13.50			
132			5660	13.00		13.50			
144			5720	13.00		13.50			
802.11n-HT20 MCS0		100	5500	13.00		13.50			
		116	5580	13.00		13.50			
		124	5620	13.00		13.50			
		132	5660	13.00		13.50			
		144	5720	13.00		13.50			
802.11n-HT40 MCS0		102	5510	13.00		13.50			
		110	5550	13.00		13.50			
		126	5630	13.00		13.50			
		134	5670	13.00		13.50			
802.11ac-VHT20 MCS0		102	5510	13.00		13.50			
		110	5550	13.00		13.50			
		126	5630	13.00		13.50			
		134	5670	13.00		13.50			
		142	5710	13.00		13.50			
802.11ac-VHT40 MCS0		100	5500	13.00		13.50			
	116	5580	13.00	13.50					
	124	5620	13.00	13.50					
	132	5660	13.00	13.50					
	144	5720	13.00	13.50					
802.11ac-VHT80 MCS0	106	5530	12.46	13.00	98.00	13.11	13.50	98.00	
	122	5610	12.43	13.00		13.14	13.50		
	138	5690	12.59	13.00		13.27	13.50		
	802.11ac-VHT160 MCS0	114	5570	12.85	13.00	98.00	13.11	13.50	98.00
802.11ax-HE20 MCS0	100	5500	Not Required	13.00	Not Required	Not Required	13.50	Not Required	
	116	5580		13.00			13.50		
	124	5620		13.00			13.50		
	132	5660		13.00			13.50		
	144	5720		13.00			13.50		
802.11ax-HE40 MCS0	102	5510		13.00			13.50		
	110	5550		13.00			13.50		
	126	5630		13.00			13.50		
	134	5670		13.00			13.50		
802.11ax-HE80 MCS0	106	5530		13.00			13.50		
	122	5610		13.00			13.50		
	138	5690		13.00			13.50		
802.11ax-HE160 MCS0	114	5570		13.00			13.50		



5.8GHz WLAN				Ant 1			Ant 2		
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	Not Required	13.00	Not Required	Not Required	11.50	Not Required
		157	5785		13.00			11.50	
		165	5825		13.00			11.50	
	802.11n-HT20 MCS0	149	5745	Not Required	13.00	Not Required	Not Required	11.50	Not Required
		157	5785		13.00			11.50	
		165	5825		13.00			11.50	
	802.11n-HT40 MCS0	151	5755	12.44	13.00	98.00	11.07	11.50	98.00
		159	5795	12.60	13.00		11.10	11.50	
	802.11ac-VHT20 MCS0	149	5745	Not Required	13.00	Not Required	Not Required	11.50	Not Required
157		5785	13.00		11.50				
165		5825	13.00		11.50				
802.11ac-VHT40 MCS0	151	5755	Not Required	13.00	Not Required	Not Required	11.50	Not Required	
	159	5795		13.00			11.50		
802.11ac-VHT80 MCS0	155	5775	12.64	13.00	98.00	11.16	11.50	98.00	
802.11ax-HE20 MCS0	149	5745	Not Required	13.00	Not Required	Not Required	11.50	Not Required	
	157	5785		13.00			11.50		
	165	5825		13.00			11.50		
802.11ax-HE40 MCS0	151	5755	Not Required	13.00	Not Required	Not Required	11.50	Not Required	
	159	5795		13.00			11.50		
802.11ax-HE80 MCS0	155	5775	Not Required	13.00	Not Required	Not Required	11.50	Not Required	

<Bluetooth Output Power>

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	8.90	8.60	8.60
	CH 39	2441	9.60	9.00	9.20
	CH 78	2480	9.70	9.20	9.20
Tune-up Limit			10.5	10.5	10.5
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	
LE	CH 00	2402	5.50	5.50	
	CH 19	2440	6.00	6.00	
	CH 39	2480	6.20	6.20	
Tune-up Limit			7	7	

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 77.13% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.



15. Test Exclusion apply

<SAR test exclusion table>

General Note:

- The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
- Maximum power is the source-based time-average power and represents the maximum RF output power among production units
- Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
- Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
 - $[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] \cdot [\sqrt{f(GHz)}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
 - f(GHz) is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation
 - The result is rounded to one decimal place for comparison
- Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following
 - Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

<Main Antenna>

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71/n71	LTE Band 12/17/n12	LTE Band 14	LTE Band 13	LTE Band 5/n5	LTE Band 26	LTE Band 4/66/n66	LTE Band 2/25/n2	LTE Band 30	LTE Band 7	LTE Band 38/41
	Calculated Frequency	846MHz	1750MHz	1907MHz	695MHz	715MHz	795MHz	784MHz	848MHz	848MHz	1754MHz	1909MHz	2312MHz	2567MHz	2687MHz
	Maximum power (dBm)	24.50	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24	24	23	24	24
	Maximum rated power(mW)	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	251.0	251.0	200.0	251.0	251.0
Bottom Face	Separation distance(mm)	5.0													
	exclusion threshold	51.9	74.6	77.9	47.0	47.7	50.3	49.9	51.9	51.9	66.5	69.4	60.8	80.4	82.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	5.0													
	exclusion threshold	51.9	74.6	77.9	47.0	47.7	50.3	49.9	51.9	51.9	66.5	69.4	60.8	80.4	82.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	5.0													
	exclusion threshold	51.9	74.6	77.9	47.0	47.7	50.3	49.9	51.9	51.9	66.5	69.4	60.8	80.4	82.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 3	Separation distance(mm)	202.0													
	exclusion threshold	1020.0	1633.0	1629.0	884.0	902.0	974.0	964.0	1022.0	1022.0	1633.0	1629.0	1619.0	1614.0	1612.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	226.0													
	exclusion threshold	1156.0	1873.0	1869.0	995.0	1016.0	1101.0	1089.0	1158.0	1158.0	1873.0	1869.0	1859.0	1854.0	1852.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Bottom of Laptop	Separation distance(mm)	5.0													
	exclusion threshold	51.9	74.6	77.9	47.0	47.7	50.3	49.9	51.9	51.9	66.5	69.4	60.8	80.4	82.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



<MIMO 2 Antenna>

Exposure Position	Wireless Interface	LTE Band 66	LTE Band 2	LTE Band 7	LTE Band 48	LTE Band n2	LTE Band n7	LTE Band n41	LTE Band n66
	Calculated Frequency	1779MHz	1909MHz	2567MHz	3697MHz	1909MHz	2567MHz	2687MHz	1779MHz
	Maximum power (dBm)	24	24	24	22	24	24	24	24
	Maximum rated power(mW)	251.0	251.0	251.0	158.0	251.0	251.0	251.0	251.0
Bottom Face	Separation distance(mm)	5.0							
	exclusion threshold	67.0	69.4	80.4	60.8	69.4	80.4	82.3	67.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	25.5							
	exclusion threshold	13.1	13.6	15.8	11.9	13.6	15.8	16.1	13.1
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	301.0							
	exclusion threshold	2622.0	2619.0	2604.0	2588.0	2619.0	2604.0	2602.0	2622.0
	Testing required?	No	No	No	No	No	No	No	No
Edge 3	Separation distance(mm)	158.0							
	exclusion threshold	1192.0	1189.0	1174.0	1158.0	959.0	1174.0	1172.0	1192.0
	Testing required?	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	5.0							
	exclusion threshold	67.0	69.4	80.4	60.8	2509.0	80.4	82.3	67.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottom of Laptop	Separation distance(mm)	5.0							
	exclusion threshold	67.0	69.4	80.4	60.8	69.4	80.4	82.3	67.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
4. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in sensor trigger distance was performed according to section 4. The test results just verification the sensor trigger distance to meet KDB 616217 requirement, when in normal usage will not operate at trigger distance, therefore, these results were not using performed Sim-Tx analysis

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B5/B12/B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 4/17/38 SAR test was covered by Band 66/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.



5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
 - c. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - f. For 5G FR1 n5/n12/n41/n71 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

16.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	ON	9400	1880	12.44	14.00	1.432	-0.02	0.274	0.392
01	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	ON	9400	1880	12.44	14.00	1.432	0.1	0.828	1.186
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	ON	9538	1907.6	12.40	14.00	1.445	0.06	0.803	1.161
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	ON	9262	1852.4	12.31	14.00	1.476	0.17	0.801	1.182
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	ON	9400	1880	12.44	14.00	1.432	-0.09	0.485	0.695
	WCDMA II	RMC 12.2Kbps	Edge 2	0mm	ON	9400	1880	12.44	14.00	1.432	0.15	0.073	0.105
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	10mm	OFF	9262	1852.4	23.83	24.50	1.167	-0.14	0.616	0.719
	WCDMA II	RMC 12.2Kbps	Bottom Face	16mm	OFF	9262	1852.4	23.83	24.50	1.167	-0.06	0.522	0.609
	WCDMA II	RMC 12.2Kbps	Edge 1	7mm	OFF	9262	1852.4	23.83	24.50	1.167	-0.04	0.532	0.621
	WCDMA II	RMC 12.2Kbps	Edge 2	4mm	OFF	9262	1852.4	23.83	24.50	1.167	0.11	0.067	0.078
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	ON	1312	1712.4	13.88	14.50	1.153	0.01	0.299	0.345
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	ON	1312	1712.4	13.88	14.50	1.153	0.06	0.750	0.865
02	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	ON	1413	1732.6	13.04	14.50	1.400	0.01	0.825	1.155
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	ON	1513	1752.6	13.87	14.50	1.156	0.02	0.786	0.909
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1312	1712.4	13.88	14.50	1.153	-0.15	0.462	0.533
	WCDMA IV	RMC 12.2Kbps	Edge 2	0mm	ON	1312	1712.4	13.88	14.50	1.153	-0.17	0.116	0.134
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	10mm	OFF	1413	1732.6	24.02	24.50	1.117	-0.08	0.618	0.690
	WCDMA IV	RMC 12.2Kbps	Bottom Face	16mm	OFF	1413	1732.6	24.02	24.50	1.117	-0.04	0.593	0.662
	WCDMA IV	RMC 12.2Kbps	Edge 1	7mm	OFF	1413	1732.6	24.02	24.50	1.117	0.01	0.673	0.752
	WCDMA IV	RMC 12.2Kbps	Edge 2	4mm	OFF	1413	1732.6	24.02	24.50	1.117	-0.05	0.074	0.083
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	ON	4182	836.4	15.36	16.50	1.300	-0.03	0.125	0.163
03	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	ON	4182	836.4	15.36	16.50	1.300	-0.07	0.869	1.130
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	ON	4132	826.4	15.28	16.50	1.324	0.01	0.837	1.108
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	ON	4233	846.6	15.21	16.50	1.346	-0.03	0.757	1.019
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4182	836.4	15.36	16.50	1.300	0.19	0.231	0.300
	WCDMA V	RMC 12.2Kbps	Edge 2	0mm	ON	4182	836.4	15.36	16.50	1.300	-0.05	0.548	0.712
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	10mm	OFF	4182	836.4	24.31	24.50	1.045	-0.08	0.412	0.430
	WCDMA V	RMC 12.2Kbps	Bottom Face	16mm	OFF	4182	836.4	24.31	24.50	1.045	-0.05	0.304	0.318
	WCDMA V	RMC 12.2Kbps	Edge 1	7mm	OFF	4182	836.4	24.31	24.50	1.045	0.1	0.202	0.211
	WCDMA V	RMC 12.2Kbps	Edge 2	4mm	OFF	4182	836.4	24.31	24.50	1.045	-0.04	0.580	0.606



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2 MIMO2	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	19100	1900	11.65	12.00	1.084	-0.11	0.190	0.206
	LTE Band 2 MIMO2	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	19100	1900	10.79	11.00	1.050	-0.07	0.158	0.166
	LTE Band 2 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	19100	1900	11.65	12.00	1.084	0.06	0.542	0.587
	LTE Band 2 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	19100	1900	10.79	11.00	1.050	0.02	0.445	0.467
04	LTE Band 2 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	19100	1900	11.65	12.00	1.084	0.16	0.584	0.633
	LTE Band 2 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	18700	1860	11.44	12.00	1.138	0.1	0.527	0.600
	LTE Band 2 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	18900	1880	11.42	12.00	1.143	0.09	0.517	0.591
	LTE Band 2 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	19100	1900	10.79	11.00	1.050	0.13	0.476	0.500
	LTE Band 2 MIMO2	20M	QPSK	1	0	Bottom of Laptop	11mm	OFF	19100	1900	23.35	24.00	1.161	0.1	0.464	0.539
	LTE Band 2 MIMO2	20M	QPSK	50	0	Bottom of Laptop	11mm	OFF	19100	1900	22.62	23.00	1.091	0.05	0.378	0.413
	LTE Band 2 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	19100	1900	23.35	24.00	1.161	-0.1	0.203	0.236
	LTE Band 2 MIMO2	20M	QPSK	50	0	Bottom Face	20mm	OFF	19100	1900	22.62	23.00	1.091	0	0.187	0.204
	LTE Band 2 MIMO2	20M	QPSK	1	0	Edge 1	0mm	OFF	19100	1900	23.35	24.00	1.161	0.14	0.182	0.211
	LTE Band 2 MIMO2	20M	QPSK	50	0	Edge 1	0mm	OFF	19100	1900	22.62	23.00	1.091	0.18	0.164	0.179
	LTE Band 2 MIMO2	20M	QPSK	1	0	Edge 4	20mm	OFF	19100	1900	23.35	24.00	1.161	0.04	0.225	0.261
	LTE Band 2 MIMO2	20M	QPSK	50	0	Edge 4	20mm	OFF	19100	1900	22.62	23.00	1.091	0.15	0.198	0.216
	LTE Band 5	10M	QPSK	1	0	Bottom of Laptop	0mm	ON	20525	836.5	14.57	15.50	1.239	-0.19	0.205	0.254
	LTE Band 5	10M	QPSK	25	0	Bottom of Laptop	0mm	ON	20525	836.5	13.89	14.50	1.151	-0.15	0.175	0.201
05	LTE Band 5	10M	QPSK	1	0	Bottom Face	0mm	ON	20525	836.5	14.57	15.50	1.239	0.05	0.915	1.133
	LTE Band 5	10M	QPSK	25	0	Bottom Face	0mm	ON	20525	836.5	13.89	14.50	1.151	0.04	0.789	0.908
	LTE Band 5	10M	QPSK	50	0	Bottom Face	0mm	ON	20525	836.5	13.85	14.50	1.161	0.1	0.775	0.900
	LTE Band 5	10M	QPSK	1	0	Edge 1	0mm	ON	20525	836.5	14.57	15.50	1.239	0.03	0.348	0.431
	LTE Band 5	10M	QPSK	25	0	Edge 1	0mm	ON	20525	836.5	13.89	14.50	1.151	-0.01	0.298	0.343
	LTE Band 5	10M	QPSK	1	0	Edge 2	0mm	ON	20525	836.5	14.57	15.50	1.239	-0.11	0.697	0.863
	LTE Band 5	10M	QPSK	25	0	Edge 2	0mm	ON	20525	836.5	13.89	14.50	1.151	-0.15	0.588	0.677
	LTE Band 5	10M	QPSK	50	0	Edge 2	0mm	ON	20525	836.5	13.85	14.50	1.161	-0.17	0.573	0.666
	LTE Band 5	10M	QPSK	1	0	Bottom of Laptop	10mm	OFF	20525	836.5	23.89	24.50	1.151	0.08	0.488	0.562
	LTE Band 5	10M	QPSK	25	0	Bottom of Laptop	10mm	OFF	20525	836.5	22.95	23.50	1.135	-0.1	0.375	0.426
	LTE Band 5	10M	QPSK	1	0	Bottom Face	16mm	OFF	20525	836.5	23.89	24.50	1.151	-0.1	0.169	0.194
	LTE Band 5	10M	QPSK	25	0	Bottom Face	16mm	OFF	20525	836.5	22.95	23.50	1.135	-0.03	0.132	0.150
	LTE Band 5	10M	QPSK	1	0	Edge 1	7mm	OFF	20525	836.5	23.89	24.50	1.151	-0.11	0.129	0.148
	LTE Band 5	10M	QPSK	25	0	Edge 1	7mm	OFF	20525	836.5	22.95	23.50	1.135	-0.13	0.113	0.128
	LTE Band 5	10M	QPSK	1	0	Edge 2	4mm	OFF	20525	836.5	23.89	24.50	1.151	0.13	0.543	0.625
	LTE Band 5	10M	QPSK	25	0	Edge 2	4mm	OFF	20525	836.5	22.95	23.50	1.135	-0.07	0.437	0.496
	LTE Band 5B	10M	QPSK	1	0	Bottom Face	0mm	ON	20525	836.5	14.55	15.50	1.245	0.07	0.861	1.072
	LTE Band 5B	10M	QPSK	1	0	Edge 2	4mm	OFF	20525	836.5	23.78	24.50	1.180	0.1	0.519	0.613



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	21100	2535	11.25	12.00	1.189	-0.08	0.319	0.379
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	21100	2535	10.57	11.00	1.104	-0.15	0.269	0.297
06	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	11.25	12.00	1.189	-0.11	0.927	1.102
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	ON	20850	2510	11.18	12.00	1.208	-0.07	0.887	1.071
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	ON	21350	2560	11.21	12.00	1.199	-0.02	0.869	1.042
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	ON	21100	2535	10.57	11.00	1.104	-0.18	0.775	0.856
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	ON	20850	2510	10.48	11.00	1.127	-0.11	0.752	0.848
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	ON	21350	2560	10.53	11.00	1.114	-0.14	0.764	0.851
	LTE Band 7	20M	QPSK	100	0	Bottom Face	0mm	ON	21100	2535	10.50	11.00	1.122	-0.19	0.737	0.827
	LTE Band 7	20M	QPSK	1	0	Edge 1	0mm	ON	21100	2535	11.25	12.00	1.189	0.02	0.311	0.370
	LTE Band 7	20M	QPSK	50	0	Edge 1	0mm	ON	21100	2535	10.57	11.00	1.104	0	0.264	0.291
	LTE Band 7	20M	QPSK	1	0	Edge 2	0mm	ON	21100	2535	11.25	12.00	1.189	0.11	0.021	0.025
	LTE Band 7	20M	QPSK	50	0	Edge 2	0mm	ON	21100	2535	10.57	11.00	1.104	0.14	0.017	0.019
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	21100	2535	23.88	24.00	1.028	-0.05	0.740	0.761
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	10mm	OFF	21100	2535	22.92	23.00	1.019	0.18	0.584	0.595
	LTE Band 7	20M	QPSK	1	0	Bottom Face	16mm	OFF	21100	2535	23.88	24.00	1.028	0.17	0.344	0.354
	LTE Band 7	20M	QPSK	50	0	Bottom Face	16mm	OFF	21100	2535	22.92	23.00	1.019	0.11	0.278	0.283
	LTE Band 7	20M	QPSK	1	0	Edge 1	7mm	OFF	21100	2535	23.88	24.00	1.028	0.09	0.432	0.444
	LTE Band 7	20M	QPSK	50	0	Edge 1	7mm	OFF	21100	2535	22.92	23.00	1.019	-0.02	0.337	0.343
	LTE Band 7	20M	QPSK	1	0	Edge 2	4mm	OFF	21100	2535	23.88	24.00	1.028	-0.14	0.299	0.307
	LTE Band 7	20M	QPSK	50	0	Edge 2	4mm	OFF	21100	2535	22.92	23.00	1.019	-0.06	0.215	0.219
	LTE Band 7C	20M	QPSK	1	0	Bottom Face	0mm	ON	20850	2510	11.18	12.00	1.208	0.06	0.887	1.071
	LTE Band 7C	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	20850	2510	23.75	24.00	1.059	-0.07	0.688	0.729
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	21100	2535	7.67	8.00	1.079	-0.02	0.134	0.145
	LTE Band 7 MIMO2	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	21100	2535	6.71	7.00	1.069	-0.08	0.107	0.114
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	7.67	8.00	1.079	-0.19	0.509	0.549
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	6.71	7.00	1.069	-0.15	0.408	0.436
	LTE Band 7 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	21100	2535	7.67	8.00	1.079	0.1	0.486	0.524
	LTE Band 7 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	21100	2535	6.71	7.00	1.069	0.04	0.391	0.418
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom of Laptop	11mm	OFF	21100	2535	23.58	24.00	1.102	0.06	0.687	0.757
	LTE Band 7 MIMO2	20M	QPSK	50	0	Bottom of Laptop	11mm	OFF	21100	2535	22.84	23.00	1.038	0.04	0.577	0.599
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	21100	2535	23.58	24.00	1.102	0.02	0.870	0.958
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	20850	2510	23.52	24.00	1.117	0	0.857	0.957
	LTE Band 7 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	21350	2560	23.48	24.00	1.127	0.01	0.844	0.951
	LTE Band 7 MIMO2	20M	QPSK	50	0	Bottom Face	20mm	OFF	21100	2535	22.84	23.00	1.038	0.02	0.764	0.793
	LTE Band 7 MIMO2	20M	QPSK	100	0	Bottom Face	20mm	OFF	21100	2535	22.48	23.00	1.127	0.02	0.744	0.839
	LTE Band 7 MIMO2	20M	QPSK	1	0	Edge 1	0mm	OFF	21100	2535	23.58	24.00	1.102	0.07	0.287	0.316
	LTE Band 7 MIMO2	20M	QPSK	50	0	Edge 1	0mm	OFF	21100	2535	22.84	23.00	1.038	0.12	0.276	0.286
	LTE Band 7 MIMO2	20M	QPSK	1	0	Edge 4	20mm	OFF	21100	2535	23.58	24.00	1.102	0.08	0.721	0.794
	LTE Band 7 MIMO2	20M	QPSK	50	0	Edge 4	20mm	OFF	21100	2535	22.84	23.00	1.038	-0.19	0.648	0.672



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	0	Bottom of Laptop	0mm	ON	23095	707.5	14.87	16.00	1.297	-0.13	0.148	0.192
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	0mm	ON	23095	707.5	13.79	15.00	1.321	0.02	0.118	0.156
	LTE Band 12	10M	QPSK	1	0	Bottom Face	0mm	ON	23095	707.5	14.87	16.00	1.297	-0.01	0.495	0.642
	LTE Band 12	10M	QPSK	25	0	Bottom Face	0mm	ON	23095	707.5	13.79	15.00	1.321	0.01	0.389	0.514
	LTE Band 12	10M	QPSK	1	0	Edge 1	0mm	ON	23095	707.5	14.87	16.00	1.297	0.15	0.566	0.734
	LTE Band 12	10M	QPSK	25	0	Edge 1	0mm	ON	23095	707.5	13.79	15.00	1.321	0.12	0.441	0.583
07	LTE Band 12	10M	QPSK	1	0	Edge 2	0mm	ON	23095	707.5	14.87	16.00	1.297	-0.09	0.906	1.175
	LTE Band 12	10M	QPSK	25	0	Edge 2	0mm	ON	23095	707.5	13.79	15.00	1.321	-0.06	0.710	0.938
	LTE Band 12	10M	QPSK	50	0	Edge 2	0mm	ON	23095	707.5	13.78	15.00	1.324	0.01	0.712	0.943
	LTE Band 12	10M	QPSK	1	0	Bottom of Laptop	10mm	OFF	23095	707.5	23.67	24.50	1.211	-0.15	0.341	0.413
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	10mm	OFF	23095	707.5	22.76	23.50	1.186	-0.08	0.288	0.342
	LTE Band 12	10M	QPSK	1	0	Bottom Face	16mm	OFF	23095	707.5	23.67	24.50	1.211	-0.13	0.234	0.283
	LTE Band 12	10M	QPSK	25	0	Bottom Face	16mm	OFF	23095	707.5	22.76	23.50	1.186	-0.17	0.191	0.226
	LTE Band 12	10M	QPSK	1	0	Edge 1	7mm	OFF	23095	707.5	23.67	24.50	1.211	0	0.089	0.108
	LTE Band 12	10M	QPSK	25	0	Edge 1	7mm	OFF	23095	707.5	22.76	23.50	1.186	0.01	0.078	0.092
	LTE Band 12	10M	QPSK	1	0	Edge 2	4mm	OFF	23095	707.5	23.67	24.50	1.211	0.05	0.433	0.524
	LTE Band 12	10M	QPSK	25	0	Edge 2	4mm	OFF	23095	707.5	22.76	23.50	1.186	-0.02	0.373	0.442
	LTE Band 13	10M	QPSK	1	0	Bottom of Laptop	0mm	ON	23230	782	15.44	17.00	1.432	-0.19	0.304	0.435
	LTE Band 13	10M	QPSK	25	0	Bottom of Laptop	0mm	ON	23230	782	14.67	16.00	1.358	-0.03	0.253	0.344
08	LTE Band 13	10M	QPSK	1	0	Bottom Face	0mm	ON	23230	782	15.44	17.00	1.432	0.03	0.805	1.153
	LTE Band 13	10M	QPSK	25	0	Bottom Face	0mm	ON	23230	782	14.67	16.00	1.358	0.01	0.675	0.917
	LTE Band 13	10M	QPSK	50	0	Bottom Face	0mm	ON	23230	782	14.63	16.00	1.371	0.04	0.659	0.903
	LTE Band 13	10M	QPSK	1	0	Edge 1	0mm	ON	23230	782	15.44	17.00	1.432	-0.13	0.252	0.361
	LTE Band 13	10M	QPSK	25	0	Edge 1	0mm	ON	23230	782	14.67	16.00	1.358	-0.17	0.205	0.278
	LTE Band 13	10M	QPSK	1	0	Edge 2	0mm	ON	23230	782	15.44	17.00	1.432	0.11	0.746	1.069
	LTE Band 13	10M	QPSK	25	0	Edge 2	0mm	ON	23230	782	14.67	16.00	1.358	0.15	0.622	0.845
	LTE Band 13	10M	QPSK	50	0	Edge 2	0mm	ON	23230	782	14.63	16.00	1.371	0.07	0.609	0.835
	LTE Band 13	10M	QPSK	1	0	Bottom of Laptop	10mm	OFF	23230	782	23.76	24.50	1.186	0.17	0.598	0.709
	LTE Band 13	10M	QPSK	25	0	Bottom of Laptop	10mm	OFF	23230	782	22.75	23.50	1.189	0.06	0.490	0.582
	LTE Band 13	10M	QPSK	1	0	Bottom Face	16mm	OFF	23230	782	23.76	24.50	1.186	-0.13	0.285	0.338
	LTE Band 13	10M	QPSK	1	0	Bottom Face	16mm	OFF	23230	782	22.75	23.50	1.189	-0.09	0.276	0.328
	LTE Band 13	10M	QPSK	1	0	Edge 1	7mm	OFF	23230	782	23.76	24.50	1.186	-0.09	0.142	0.168
	LTE Band 13	10M	QPSK	25	0	Edge 1	7mm	OFF	23230	782	22.75	23.50	1.189	-0.07	0.127	0.151
	LTE Band 13	10M	QPSK	1	0	Edge 2	4mm	OFF	23230	782	23.76	24.50	1.186	0.13	0.602	0.714
	LTE Band 13	10M	QPSK	25	0	Edge 2	4mm	OFF	23230	782	22.75	23.50	1.189	-0.01	0.396	0.471



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	0mm	ON	23330	793	14.56	16.00	1.393	-0.14	0.256	0.357
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	0mm	ON	23330	793	13.99	15.00	1.262	-0.08	0.211	0.266
09	LTE Band 14	10M	QPSK	1	0	Bottom Face	0mm	ON	23330	793	14.56	16.00	1.393	-0.04	0.832	1.159
	LTE Band 14	10M	QPSK	25	0	Bottom Face	0mm	ON	23330	793	13.99	15.00	1.262	-0.09	0.695	0.877
	LTE Band 14	10M	QPSK	50	0	Bottom Face	0mm	ON	23330	793	13.91	15.00	1.285	0	0.679	0.873
	LTE Band 14	10M	QPSK	1	0	Edge 1	0mm	ON	23330	793	14.56	16.00	1.393	0.02	0.222	0.309
	LTE Band 14	10M	QPSK	25	0	Edge 1	0mm	ON	23330	793	13.99	15.00	1.262	0.07	0.184	0.232
	LTE Band 14	10M	QPSK	1	0	Edge 2	0mm	ON	23330	793	14.56	16.00	1.393	0.11	0.633	0.882
	LTE Band 14	10M	QPSK	25	0	Edge 2	0mm	ON	23330	793	13.99	15.00	1.262	0.16	0.523	0.660
	LTE Band 14	10M	QPSK	50	0	Edge 2	0mm	ON	23330	793	13.91	15.00	1.285	-0.02	0.507	0.652
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	10mm	OFF	23330	793	23.73	24.50	1.194	0.12	0.596	0.712
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	10mm	OFF	23330	793	22.69	23.50	1.205	0.07	0.458	0.552
	LTE Band 14	10M	QPSK	1	0	Bottom Face	16mm	OFF	23330	793	23.73	24.50	1.194	-0.06	0.263	0.314
	LTE Band 14	10M	QPSK	25	0	Bottom Face	16mm	OFF	23330	793	22.69	23.50	1.205	0.02	0.206	0.248
	LTE Band 14	10M	QPSK	1	0	Edge 1	7mm	OFF	23330	782	23.73	24.50	1.194	-0.01	0.139	0.166
	LTE Band 14	10M	QPSK	25	0	Edge 1	7mm	OFF	23330	782	22.69	23.50	1.205	-0.11	0.122	0.147
	LTE Band 14	10M	QPSK	1	0	Edge 2	4mm	OFF	23330	793	23.73	24.50	1.194	0.14	0.687	0.820
	LTE Band 14	10M	QPSK	25	0	Edge 2	4mm	OFF	23330	793	22.69	23.50	1.205	0.13	0.544	0.656
	LTE Band 14	10M	QPSK	50	0	Edge 2	4mm	OFF	23330	793	22.66	23.50	1.213	0.18	0.533	0.647
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	26140	1860	12.24	13.00	1.191	-0.13	0.320	0.381
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	26140	1860	11.45	12.00	1.135	-0.16	0.267	0.303
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	ON	26140	1860	12.24	13.00	1.191	0.12	0.881	1.049
10	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	ON	26340	1880	12.23	13.00	1.194	0.04	0.945	1.128
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	ON	26590	1905	12.18	13.00	1.208	0.1	0.889	1.074
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	ON	26140	1860	11.45	12.00	1.135	0.06	0.737	0.837
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	ON	26340	1880	11.36	12.00	1.159	0.08	0.775	0.898
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	ON	26590	1905	11.31	12.00	1.172	0.11	0.726	0.851
	LTE Band 25	20M	QPSK	100	0	Bottom Face	0mm	ON	26140	1860	11.40	12.00	1.148	0.13	0.763	0.876
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	ON	26140	1860	12.24	13.00	1.191	0.18	0.536	0.639
	LTE Band 25	20M	QPSK	50	0	Edge 1	0mm	ON	26140	1860	11.45	12.00	1.135	0.09	0.448	0.508
	LTE Band 25	20M	QPSK	1	0	Edge 2	0mm	ON	26140	1860	12.24	13.00	1.191	-0.18	0.080	0.095
	LTE Band 25	20M	QPSK	50	0	Edge 2	0mm	ON	26140	1860	11.45	12.00	1.135	-0.19	0.069	0.078
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	26140	1860	23.38	24.00	1.153	-0.07	0.676	0.780
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	10mm	OFF	26140	1860	22.49	23.00	1.125	0	0.568	0.639
	LTE Band 25	20M	QPSK	1	0	Bottom Face	16mm	OFF	26140	1860	23.38	24.00	1.153	-0.14	0.377	0.435
	LTE Band 25	20M	QPSK	50	0	Bottom Face	16mm	OFF	26140	1860	22.49	23.00	1.125	-0.06	0.309	0.348
	LTE Band 25	20M	QPSK	1	0	Edge 1	7mm	OFF	26140	1860	23.38	24.00	1.153	-0.03	0.326	0.376
	LTE Band 25	20M	QPSK	50	0	Edge 1	7mm	OFF	26140	1860	22.49	23.00	1.125	-0.14	0.253	0.285
	LTE Band 25	20M	QPSK	1	0	Edge 2	4mm	OFF	26140	1860	23.38	24.00	1.153	-0.09	0.063	0.073
	LTE Band 25	20M	QPSK	50	0	Edge 2	4mm	OFF	26140	1860	22.49	23.00	1.125	0	0.051	0.057



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 26	15M	QPSK	1	0	Bottom of Laptop	0mm	ON	26865	831.5	14.80	15.50	1.175	-0.1	0.192	0.226
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	0mm	ON	26865	831.5	13.97	14.50	1.130	-0.06	0.155	0.175
11	LTE Band 26	15M	QPSK	1	0	Bottom Face	0mm	ON	26865	831.5	14.80	15.50	1.175	-0.04	0.952	1.119
	LTE Band 26	15M	QPSK	36	0	Bottom Face	0mm	ON	26865	831.5	13.97	14.50	1.130	0.01	0.787	0.889
	LTE Band 26	15M	QPSK	75	0	Bottom Face	0mm	ON	26865	831.5	13.91	14.50	1.146	0.09	0.768	0.880
	LTE Band 26	15M	QPSK	1	0	Edge 1	0mm	ON	26865	831.5	14.80	15.50	1.175	-0.11	0.308	0.362
	LTE Band 26	15M	QPSK	36	0	Edge 1	0mm	ON	26865	831.5	13.97	14.50	1.130	-0.14	0.251	0.284
	LTE Band 26	15M	QPSK	1	0	Edge 2	0mm	ON	26865	831.5	14.80	15.50	1.175	-0.1	0.828	0.973
	LTE Band 26	15M	QPSK	36	0	Edge 2	0mm	ON	26865	831.5	13.97	14.50	1.130	-0.06	0.685	0.774
	LTE Band 26	15M	QPSK	75	0	Edge 2	0mm	ON	26865	831.5	13.91	14.50	1.146	-0.17	0.671	0.769
	LTE Band 26	15M	QPSK	1	0	Bottom of Laptop	10mm	OFF	26865	831.5	23.97	24.50	1.130	0.15	0.520	0.587
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	10mm	OFF	26865	831.5	23.07	23.50	1.104	-0.01	0.413	0.456
	LTE Band 26	15M	QPSK	1	0	Bottom Face	16mm	OFF	26865	831.5	23.97	24.50	1.130	-0.16	0.344	0.389
	LTE Band 26	15M	QPSK	36	0	Bottom Face	16mm	OFF	26865	831.5	23.07	23.50	1.104	0.03	0.281	0.310
	LTE Band 26	15M	QPSK	1	0	Edge 1	7mm	OFF	26865	831.5	23.97	24.50	1.130	-0.09	0.133	0.150
	LTE Band 26	15M	QPSK	36	0	Edge 1	7mm	OFF	26865	831.5	23.07	23.50	1.104	-0.09	0.118	0.130
	LTE Band 26	15M	QPSK	1	0	Edge 2	4mm	OFF	26865	831.5	23.97	24.50	1.130	0.11	0.581	0.656
	LTE Band 26	15M	QPSK	36	0	Edge 2	4mm	OFF	26865	831.5	23.07	23.50	1.104	0.05	0.453	0.500
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	ON	27710	2310	11.91	13.00	1.285	-0.08	0.319	0.410
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	0mm	ON	27710	2310	10.88	12.00	1.294	-0.07	0.251	0.325
12	LTE Band 30	10M	QPSK	1	0	Bottom Face	0mm	ON	27710	2310	11.91	13.00	1.285	-0.06	0.893	1.148
	LTE Band 30	10M	QPSK	25	0	Bottom Face	0mm	ON	27710	2310	10.88	12.00	1.294	-0.11	0.704	0.911
	LTE Band 30	10M	QPSK	50	0	Bottom Face	0mm	ON	27710	2310	10.84	12.00	1.306	-0.13	0.685	0.895
	LTE Band 30	10M	QPSK	1	0	Edge 1	0mm	ON	27710	2310	11.91	13.00	1.285	0.12	0.317	0.407
	LTE Band 30	10M	QPSK	25	0	Edge 1	0mm	ON	27710	2310	10.88	12.00	1.294	0.15	0.250	0.324
	LTE Band 30	10M	QPSK	1	0	Edge 2	0mm	ON	27710	2310	11.91	13.00	1.285	-0.14	0.246	0.316
	LTE Band 30	10M	QPSK	25	0	Edge 2	0mm	ON	27710	2310	10.88	12.00	1.294	-0.08	0.195	0.252
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	10mm	OFF	27710	2310	22.31	23.00	1.172	-0.11	0.620	0.727
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	10mm	OFF	27710	2310	21.34	22.00	1.164	-0.14	0.506	0.589
	LTE Band 30	10M	QPSK	1	0	Bottom Face	16mm	OFF	27710	2310	22.31	23.00	1.172	-0.13	0.406	0.476
	LTE Band 30	10M	QPSK	25	0	Bottom Face	16mm	OFF	27710	2310	21.34	22.00	1.164	-0.03	0.323	0.376
	LTE Band 30	10M	QPSK	1	0	Edge 1	7mm	OFF	27710	2310	22.31	23.00	1.172	-0.03	0.234	0.274
	LTE Band 30	10M	QPSK	25	0	Edge 1	7mm	OFF	27710	2310	21.34	22.00	1.164	-0.08	0.184	0.214
	LTE Band 30	10M	QPSK	1	0	Edge 2	4mm	OFF	27710	2310	22.31	23.00	1.172	-0.09	0.119	0.139
	LTE Band 30	10M	QPSK	25	0	Edge 2	4mm	OFF	27710	2310	21.34	22.00	1.164	-0.12	0.090	0.105



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	40620	2593	11.18	11.50	1.076	62.9	1.006	-0.11	0.319	0.345
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	40620	2593	10.21	10.50	1.069	62.9	1.006	0.08	0.312	0.336
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	ON	40620	2593	11.18	11.50	1.076	62.9	1.006	0.07	0.539	0.584
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	ON	39750	2506	10.93	11.50	1.140	62.9	1.006	0.11	0.505	0.579
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	ON	40185	2549.5	10.94	11.50	1.138	62.9	1.006	-0.06	0.510	0.584
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	ON	41055	2636.5	11.06	11.50	1.107	62.9	1.006	-0.09	0.578	0.643
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	ON	41490	2680	10.93	11.50	1.140	62.9	1.006	-0.18	0.627	0.719
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	ON	40620	2593	10.21	10.50	1.069	62.9	1.006	0.11	0.537	0.578
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	ON	39750	2506	10.10	10.50	1.096	62.9	1.006	0.01	0.501	0.553
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	ON	40185	2549.5	10.09	10.50	1.099	62.9	1.006	-0.05	0.508	0.562
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	ON	41055	2636.5	10.14	10.50	1.086	62.9	1.006	-0.03	0.573	0.626
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	ON	41490	2680	9.95	10.50	1.135	62.9	1.006	-0.08	0.612	0.699
	LTE Band 41	20M	QPSK	100	0	Bottom Face	0mm	ON	41490	2680	10.15	10.50	1.084	62.9	1.006	-0.06	0.608	0.663
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	40620	2593	11.18	11.50	1.076	62.9	1.006	0.17	0.188	0.204
	LTE Band 41	20M	QPSK	50	0	Edge 1	0mm	ON	40620	2593	10.21	10.50	1.069	62.9	1.006	0.13	0.184	0.198
	LTE Band 41	20M	QPSK	1	0	Edge 2	0mm	ON	40620	2593	11.18	11.50	1.076	62.9	1.006	0.05	0.012	0.013
	LTE Band 41	20M	QPSK	50	0	Edge 2	0mm	ON	40620	2593	10.21	10.50	1.069	62.9	1.006	0.01	0.011	0.012
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	40620	2593	23.72	24.00	1.067	62.9	1.006	0.01	0.496	0.532
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	10mm	OFF	40620	2593	22.73	23.00	1.064	62.9	1.006	-0.1	0.396	0.424
	LTE Band 41	20M	QPSK	1	0	Bottom Face	16mm	OFF	40620	2593	23.72	24.00	1.067	62.9	1.006	-0.03	0.380	0.408
	LTE Band 41	20M	QPSK	50	0	Bottom Face	16mm	OFF	40620	2593	22.73	23.00	1.064	62.9	1.006	0.12	0.306	0.328
	LTE Band 41	20M	QPSK	1	0	Edge 1	7mm	OFF	40620	2593	23.72	24.00	1.067	62.9	1.006	0.06	0.350	0.376
	LTE Band 41	20M	QPSK	50	0	Edge 1	7mm	OFF	40620	2593	22.73	23.00	1.064	62.9	1.006	0.11	0.309	0.331
	LTE Band 41	20M	QPSK	1	0	Edge 2	4mm	OFF	40620	2593	23.72	24.00	1.067	62.9	1.006	0.16	0.132	0.142
	LTE Band 41	20M	QPSK	50	0	Edge 2	4mm	OFF	40620	2593	22.73	23.00	1.064	62.9	1.006	-0.14	0.101	0.108
	LTE Band 41C	20M	QPSK	1	0	Bottom Face	0mm	ON	40185	2549.5	11.06	11.50	1.107	62.9	1.006	0.08	0.620	0.690
	LTE Band 41C	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	40185	2549.5	23.58	24.00	1.102	62.9	1.006	-0.07	0.452	0.501
13	LTE Band 41 HPUE	20M	QPSK	1	0	Bottom Face	0mm	ON	41490	2680	13.85	14.50	1.161	42.9	1.009	-0.12	0.805	0.943
	LTE Band 41 HPUE	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	40620	2593	26.31	27.00	1.172	42.9	1.009	-0.16	0.559	0.661



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	56640	3690	12.72	13.00	1.067	62.9	1.006	0.1	0.129	0.138
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	56640	3690	11.71	12.00	1.069	62.9	1.006	0.04	0.102	0.110
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	56640	3690	12.72	13.00	1.067	62.9	1.006	0.15	0.932	1.000
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	55340	3560	12.49	13.00	1.125	62.9	1.006	0.18	0.811	0.918
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	55830	3609	12.62	13.00	1.091	62.9	1.006	0.07	0.846	0.929
14	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	56150	3641	12.63	13.00	1.089	62.9	1.006	0.19	1.020	1.117
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	56640	3690	11.71	12.00	1.069	62.9	1.006	0.1	0.740	0.796
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	55340	3560	11.49	12.00	1.125	62.9	1.006	0.09	0.644	0.729
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	55830	3609	11.64	12.00	1.086	62.9	1.006	0.11	0.675	0.738
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	56150	3641	11.68	12.00	1.076	62.9	1.006	0.11	0.815	0.883
	LTE Band 48 MIMO2	20M	QPSK	100	0	Bottom Face	0mm	ON	56640	3690	11.65	12.00	1.084	62.9	1.006	0.05	0.721	0.786
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	56640	3690	12.72	13.00	1.067	62.9	1.006	-0.08	0.824	0.884
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	55340	3560	12.49	13.00	1.125	62.9	1.006	0	0.717	0.811
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	55830	3609	12.62	13.00	1.091	62.9	1.006	0.02	0.802	0.881
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	56150	3641	12.63	13.00	1.089	62.9	1.006	-0.03	0.886	0.971
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	56640	3690	11.71	12.00	1.069	62.9	1.006	-0.07	0.654	0.703
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	55340	3560	11.49	12.00	1.125	62.9	1.006	-0.12	0.570	0.645
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	55830	3609	11.64	12.00	1.086	62.9	1.006	-0.06	0.633	0.692
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	56150	3641	11.68	12.00	1.076	62.9	1.006	0.12	0.659	0.714
	LTE Band 48 MIMO2	20M	QPSK	100	0	Edge 4	0mm	ON	56640	3690	11.65	12.00	1.084	62.9	1.006	-0.07	0.690	0.752
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom of Laptop	11mm	OFF	56640	3690	21.53	22.00	1.114	62.9	1.006	-0.14	0.207	0.232
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom of Laptop	11mm	OFF	56640	3690	20.49	21.00	1.125	62.9	1.006	-0.04	0.166	0.188
	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	56640	3690	21.53	22.00	1.114	62.9	1.006	-0.16	0.214	0.240
	LTE Band 48 MIMO2	20M	QPSK	50	0	Bottom Face	20mm	OFF	56640	3690	20.49	21.00	1.125	62.9	1.006	-0.13	0.129	0.146
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 1	0mm	OFF	56640	3690	21.53	22.00	1.114	62.9	1.006	-0.17	0.137	0.154
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 1	0mm	OFF	56640	3690	20.49	21.00	1.125	62.9	1.006	-0.1	0.124	0.140
	LTE Band 48 MIMO2	20M	QPSK	1	0	Edge 4	20mm	OFF	56640	3690	21.53	22.00	1.114	62.9	1.006	-0.06	0.233	0.261
	LTE Band 48 MIMO2	20M	QPSK	50	0	Edge 4	20mm	OFF	56640	3690	20.49	21.00	1.125	62.9	1.006	-0.09	0.198	0.224
	LTE Band 48C MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	55340	3560	12.60	13.00	1.096	62.9	1.006	0.04	0.963	1.062
	LTE Band 48C MIMO2	20M	QPSK	1	0	Edge 4	20mm	OFF	55340	3560	21.42	22.00	1.143	62.9	1.006	-0.08	0.212	0.244



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	132072	1720	12.73	14.00	1.340	-0.19	0.397	0.532
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	132072	1720	11.99	13.00	1.262	-0.07	0.335	0.423
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	ON	132072	1720	12.73	14.00	1.340	-0.1	0.746	0.999
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	ON	132322	1745	12.72	14.00	1.343	-0.02	0.801	1.076
15	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	ON	132572	1770	12.60	14.00	1.380	-0.07	0.830	1.146
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	ON	132072	1720	11.99	13.00	1.262	0	0.629	0.794
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	ON	132072	1720	11.85	13.00	1.303	0.01	0.652	0.850
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	ON	132322	1745	11.78	13.00	1.324	-0.06	0.688	0.911
	LTE Band 66	20M	QPSK	100	0	Bottom Face	0mm	ON	132572	1770	11.78	13.00	1.324	-0.13	0.674	0.893
	LTE Band 66	20M	QPSK	1	0	Edge 1	0mm	ON	132072	1720	12.73	14.00	1.340	0.11	0.460	0.616
	LTE Band 66	20M	QPSK	50	0	Edge 1	0mm	ON	132072	1720	11.99	13.00	1.262	0.06	0.392	0.495
	LTE Band 66	20M	QPSK	1	0	Edge 2	0mm	ON	132072	1720	12.73	14.00	1.340	-0.19	0.099	0.133
	LTE Band 66	20M	QPSK	50	0	Edge 2	0mm	ON	132072	1720	11.99	13.00	1.262	-0.15	0.081	0.102
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	132072	1720	23.73	24.00	1.064	-0.05	0.750	0.798
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	10mm	OFF	132072	1720	22.71	23.00	1.069	0	0.606	0.648
	LTE Band 66	20M	QPSK	1	0	Bottom Face	16mm	OFF	132072	1720	23.73	24.00	1.064	-0.13	0.432	0.460
	LTE Band 66	20M	QPSK	50	0	Bottom Face	16mm	OFF	132072	1720	22.71	23.00	1.069	0.01	0.345	0.369
	LTE Band 66	20M	QPSK	1	0	Edge 1	7mm	OFF	132072	1720	23.73	24.00	1.064	-0.03	0.400	0.426
	LTE Band 66	20M	QPSK	50	0	Edge 1	7mm	OFF	132072	1720	22.71	23.00	1.069	-0.18	0.391	0.418
	LTE Band 66	20M	QPSK	1	0	Edge 2	4mm	OFF	132072	1720	23.73	24.00	1.064	-0.02	0.058	0.062
	LTE Band 66	20M	QPSK	50	0	Edge 2	4mm	OFF	132072	1720	22.71	23.00	1.069	0.1	0.042	0.045
	LTE Band 66B	15M	QPSK	1	0	Bottom Face	0mm	ON	132047	1717.5	12.70	14.00	1.349	0.04	0.811	1.094
	LTE Band 66C	20M	QPSK	1	0	Bottom Face	0mm	ON	132072	1720	12.71	14.00	1.346	-0.05	0.802	1.079
	LTE Band 66B	15M	QPSK	1	0	Bottom of Laptop	10mm	OFF	132047	1717.5	23.56	24.00	1.107	-0.09	0.696	0.770
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	132072	1720	23.53	24.00	1.114	0.12	0.687	0.766
	LTE Band 66 MIMO2	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	132072	1720	10.63	11.00	1.089	-0.07	0.074	0.081
	LTE Band 66 MIMO2	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	132072	1720	9.82	10.00	1.042	-0.01	0.061	0.064
	LTE Band 66 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	132072	1720	10.63	11.00	1.089	0.09	0.550	0.599
	LTE Band 66 MIMO2	20M	QPSK	50	0	Bottom Face	0mm	ON	132572	1770	9.82	10.00	1.042	0	0.456	0.475
	LTE Band 66 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	132072	1720	10.63	11.00	1.089	0.03	0.580	0.632
	LTE Band 66 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	132322	1745	10.45	11.00	1.135	0.08	0.571	0.648
	LTE Band 66 MIMO2	20M	QPSK	1	0	Edge 4	0mm	ON	132572	1770	10.56	11.00	1.107	0.14	0.591	0.654
	LTE Band 66 MIMO2	20M	QPSK	50	0	Edge 4	0mm	ON	132072	1720	9.82	10.00	1.042	0.17	0.482	0.502
	LTE Band 66 MIMO2	20M	QPSK	1	0	Bottom of Laptop	11mm	OFF	132072	1720	23.52	24.00	1.117	0	0.412	0.460
	LTE Band 66 MIMO2	20M	QPSK	50	0	Bottom of Laptop	11mm	OFF	132072	1720	22.81	23.00	1.045	0.11	0.387	0.404
	LTE Band 66 MIMO2	20M	QPSK	1	0	Bottom Face	20mm	OFF	132072	1720	23.52	24.00	1.117	0.07	0.288	0.322
	LTE Band 66 MIMO2	20M	QPSK	50	0	Bottom Face	20mm	OFF	132072	1720	22.81	23.00	1.045	-0.04	0.254	0.265
	LTE Band 66 MIMO2	20M	QPSK	1	0	Edge 1	0mm	OFF	132072	1720	23.52	24.00	1.117	0.14	0.236	0.264
	LTE Band 66 MIMO2	20M	QPSK	50	0	Edge 1	0mm	OFF	132072	1720	22.81	23.00	1.045	0.05	0.218	0.228
	LTE Band 66 MIMO2	20M	QPSK	1	0	Edge 4	20mm	OFF	132072	1720	23.52	24.00	1.117	0.02	0.246	0.275
	LTE Band 66 MIMO2	20M	QPSK	50	0	Edge 4	20mm	OFF	132072	1720	22.81	23.00	1.045	0.05	0.221	0.231



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)
	LTE Band 71	20M	QPSK	1	0	Bottom of Laptop	0mm	ON	133322	683	15.73	16.00	1.064	-0.19	0.150	0.160
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	0mm	ON	133322	683	14.69	15.00	1.074	-0.07	0.115	0.124
	LTE Band 71	20M	QPSK	1	0	Bottom Face	0mm	ON	133322	683	15.73	16.00	1.064	-0.04	0.514	0.547
	LTE Band 71	20M	QPSK	50	0	Bottom Face	0mm	ON	133322	683	14.69	15.00	1.074	0.02	0.408	0.438
	LTE Band 71	20M	QPSK	1	0	Edge 1	0mm	ON	133322	683	15.73	16.00	1.064	0.03	0.300	0.319
	LTE Band 71	20M	QPSK	50	0	Edge 1	0mm	ON	133322	683	14.69	15.00	1.074	0	0.237	0.255
16	LTE Band 71	20M	QPSK	1	0	Edge 2	0mm	ON	133322	683	15.73	16.00	1.064	-0.04	1.110	1.181
	LTE Band 71	20M	QPSK	50	0	Edge 2	0mm	ON	133322	683	14.69	15.00	1.074	-0.04	0.881	0.946
	LTE Band 71	20M	QPSK	100	0	Edge 2	0mm	ON	133322	683	14.34	15.00	1.164	0.01	0.852	0.992
	LTE Band 71	20M	QPSK	1	0	Bottom of Laptop	10mm	OFF	133322	683	23.80	24.50	1.175	-0.04	0.432	0.508
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	10mm	OFF	133322	683	22.89	23.50	1.151	-0.16	0.416	0.479
	LTE Band 71	20M	QPSK	1	0	Bottom Face	16mm	OFF	133322	683	23.80	24.50	1.175	-0.06	0.177	0.208
	LTE Band 71	20M	QPSK	50	0	Bottom Face	16mm	OFF	133322	683	22.89	23.50	1.151	0.13	0.149	0.171
	LTE Band 71	20M	QPSK	1	0	Edge 1	7mm	OFF	133322	683	23.80	24.50	1.175	-0.07	0.062	0.073
	LTE Band 71	20M	QPSK	50	0	Edge 1	7mm	OFF	133322	683	22.89	23.50	1.151	0.01	0.051	0.059
	LTE Band 71	20M	QPSK	1	0	Edge 2	4mm	OFF	133322	683	23.80	24.50	1.175	-0.12	0.325	0.382
	LTE Band 71	20M	QPSK	50	0	Edge 2	4mm	OFF	133322	683	22.89	23.50	1.151	0.05	0.267	0.307

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n2	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	376000	1880	10.61	11.50	1.227	-0.04	0.236	0.290
	FR1 n2	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	376000	1880	10.45	11.50	1.274	-0.06	0.221	0.281
	FR1 n2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	376000	1880	10.61	11.50	1.227	-0.15	0.532	0.653
	FR1 n2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	372000	1860	10.54	11.50	1.247	-0.01	0.462	0.576
17	FR1 n2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	380000	1900	10.57	11.50	1.239	-0.17	0.530	0.657
	FR1 n2	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	376000	1880	10.45	11.50	1.274	0.16	0.502	0.639
	FR1 n2	20M	CP-QPSK	1	1	Bottom Face	0mm	ON	380000	1900	10.09	11.50	1.384	0.04	0.447	0.618
	FR1 n2	20M	DFT-BPSK	1	1	Edge 1	0mm	ON	376000	1880	10.61	11.50	1.227	0.05	0.215	0.264
	FR1 n2	20M	DFT-BPSK	50	0	Edge 1	0mm	ON	376000	1880	10.45	11.50	1.274	0.03	0.204	0.260
	FR1 n2	20M	DFT-BPSK	1	1	Edge 2	0mm	ON	376000	1880	10.61	11.50	1.227	0.08	0.032	0.039
	FR1 n2	20M	DFT-BPSK	50	0	Edge 2	0mm	ON	376000	1880	10.45	11.50	1.274	0.09	0.030	0.038
	FR1 n2	20M	DFT-BPSK	1	1	Bottom of Laptop	10mm	OFF	376000	1880	22.65	24.00	1.365	0	0.464	0.633
	FR1 n2	20M	DFT-BPSK	50	0	Bottom of Laptop	10mm	OFF	376000	1880	22.42	23.50	1.282	0.01	0.432	0.554
	FR1 n2	20M	DFT-BPSK	1	1	Bottom Face	16mm	OFF	376000	1880	22.65	24.00	1.365	0.09	0.347	0.474
	FR1 n2	20M	DFT-BPSK	50	0	Bottom Face	16mm	OFF	376000	1880	22.42	23.50	1.282	0.05	0.278	0.356
	FR1 n2	20M	DFT-BPSK	1	1	Edge 1	7mm	OFF	376000	1880	22.65	24.00	1.365	-0.1	0.304	0.415
	FR1 n2	20M	DFT-BPSK	50	0	Edge 1	7mm	OFF	376000	1880	22.42	23.50	1.282	-0.14	0.234	0.300
	FR1 n2	20M	DFT-BPSK	1	1	Edge 2	4mm	OFF	376000	1880	22.65	24.00	1.365	0.1	0.045	0.061
	FR1 n2	20M	DFT-BPSK	50	0	Edge 2	4mm	OFF	376000	1880	22.42	23.50	1.282	0.04	0.034	0.044
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	372000	1860	10.68	11.50	1.208	-0.15	0.177	0.214
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	372000	1860	10.46	11.50	1.271	0.05	0.154	0.196
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	372000	1860	10.68	11.50	1.208	-0.13	0.521	0.629
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	376000	1880	10.60	11.50	1.230	0.05	0.507	0.624
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	380000	1900	10.62	11.50	1.225	0.06	0.517	0.633
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	372000	1860	10.46	11.50	1.271	0.12	0.504	0.640
	FR1 n2 MIMO2	20M	CP-QPSK	1	1	Bottom Face	0mm	ON	372000	1860	10.11	11.50	1.377	0.06	0.437	0.602
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Edge 4	0mm	ON	372000	1860	10.68	11.50	1.208	0.01	0.426	0.515
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Edge 4	0mm	ON	372000	1860	10.46	11.50	1.230	0.11	0.421	0.518
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	11mm	OFF	372000	1860	23.43	24.00	1.140	0	0.457	0.521
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	11mm	OFF	372000	1860	23.35	24.00	1.161	0.07	0.388	0.451
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	20mm	OFF	372000	1860	23.43	24.00	1.140	-0.09	0.224	0.255
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	20mm	OFF	372000	1860	23.35	24.00	1.161	-0.15	0.201	0.233
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Edge 1	0mm	OFF	372000	1860	23.43	24.00	1.140	0.09	0.226	0.258
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Edge 1	0mm	OFF	372000	1860	23.35	24.00	1.161	-0.05	0.215	0.250
	FR1 n2 MIMO2	20M	DFT-BPSK	1	1	Edge 4	20mm	OFF	372000	1860	23.43	24.00	1.140	-0.06	0.231	0.263
	FR1 n2 MIMO2	20M	DFT-BPSK	50	0	Edge 4	20mm	OFF	372000	1860	23.35	24.00	1.161	0.07	0.187	0.217
	FR1 n5	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	167300	836.5	15.40	16.50	1.288	0.13	0.214	0.276
	FR1 n5	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	167300	836.5	15.36	16.50	1.300	0.05	0.204	0.265
18	FR1 n5	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	167300	836.5	15.40	16.50	1.288	-0.16	0.496	0.639
	FR1 n5	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	167300	836.5	15.36	16.50	1.300	0.08	0.479	0.623
	FR1 n5	20M	CP-QPSK	1	1	Bottom Face	0mm	ON	167300	836.5	15.16	16.50	1.361	0.07	0.466	0.634
	FR1 n5	20M	DFT-BPSK	1	1	Edge 1	0mm	ON	167300	836.5	15.40	16.50	1.288	0.01	0.221	0.285
	FR1 n5	20M	DFT-BPSK	50	0	Edge 1	0mm	ON	167300	836.5	15.36	16.50	1.300	0.11	0.214	0.278
	FR1 n5	20M	DFT-BPSK	1	1	Edge 2	0mm	ON	167300	836.5	15.40	16.50	1.288	-0.08	0.490	0.631
	FR1 n5	20M	DFT-BPSK	50	0	Edge 2	0mm	ON	167300	836.5	15.36	16.50	1.300	-0.07	0.473	0.615
	FR1 n5	20M	DFT-BPSK	1	1	Bottom of Laptop	10mm	OFF	167300	836.5	23.62	24.00	1.091	0.15	0.447	0.488
	FR1 n5	20M	DFT-BPSK	50	0	Bottom of Laptop	10mm	OFF	167300	836.5	23.39	23.50	1.026	-0.01	0.377	0.387
	FR1 n5	20M	DFT-BPSK	1	1	Bottom Face	16mm	OFF	167300	836.5	23.62	24.00	1.091	-0.16	0.301	0.329
	FR1 n5	20M	DFT-BPSK	50	0	Bottom Face	16mm	OFF	167300	836.5	23.39	23.50	1.026	0.03	0.277	0.284
	FR1 n5	20M	DFT-BPSK	1	1	Edge 1	7mm	OFF	167300	836.5	23.62	24.00	1.091	-0.09	0.144	0.157
	FR1 n5	20M	DFT-BPSK	50	0	Edge 1	7mm	OFF	167300	836.5	23.39	23.50	1.026	-0.09	0.120	0.123
	FR1 n5	20M	DFT-BPSK	1	1	Edge 2	4mm	OFF	167300	836.5	23.62	24.00	1.091	0.11	0.547	0.597
	FR1 n5	20M	DFT-BPSK	50	0	Edge 2	4mm	OFF	167300	836.5	23.39	23.50	1.026	0.05	0.444	0.455



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	502000	2510	6.99	7.00	1.002	-0.18	0.096	0.096
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	502000	2510	6.78	7.00	1.052	-0.1	0.092	0.097
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	502000	2510	6.99	7.00	1.002	0.05	0.543	0.544
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	502000	2510	6.78	7.00	1.052	0.1	0.519	0.546
19	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Edge 4	0mm	ON	502000	2510	6.99	7.00	1.002	0.14	0.645	0.646
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Edge 4	0mm	ON	507000	2535	6.98	7.00	1.005	0.06	0.552	0.555
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Edge 4	0mm	ON	512000	2560	6.92	7.00	1.019	0.04	0.581	0.592
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Edge 4	0mm	ON	502000	2510	6.78	7.00	1.052	0.11	0.607	0.639
	FR1 n7 MIMO2	20M	CP-QPSK	1	1	Edge 4	0mm	ON	502000	2510	6.11	7.00	1.227	-0.04	0.506	0.621
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	11mm	OFF	502000	2510	23.49	24.00	1.125	0.04	0.544	0.612
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	11mm	OFF	502000	2510	23.34	24.00	1.164	0.12	0.484	0.563
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	20mm	OFF	502000	2510	23.49	24.00	1.125	0.02	0.548	0.616
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	20mm	OFF	502000	2510	23.34	24.00	1.164	0.1	0.504	0.587
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Edge 1	0mm	OFF	502000	2510	23.49	24.00	1.125	-0.03	0.309	0.348
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Edge 1	0mm	OFF	502000	2510	23.34	24.00	1.164	-0.08	0.285	0.332
	FR1 n7 MIMO2	20M	DFT-BPSK	1	1	Edge 4	20mm	OFF	502000	2510	23.49	24.00	1.125	0.15	0.348	0.391
	FR1 n7 MIMO2	20M	DFT-BPSK	50	0	Edge 4	20mm	OFF	502000	2510	23.34	24.00	1.164	0.06	0.295	0.343
	FR1 n12	15M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	141500	707.5	10.45	11.00	1.135	-0.16	0.070	0.079
	FR1 n12	15M	DFT-BPSK	36	0	Bottom of Laptop	0mm	ON	141500	707.5	10.44	11.00	1.138	-0.08	0.065	0.074
	FR1 n12	15M	DFT-BPSK	1	1	Bottom Face	0mm	ON	141500	707.5	10.45	11.00	1.135	-0.18	0.415	0.471
	FR1 n12	15M	DFT-BPSK	36	0	Bottom Face	0mm	ON	141500	707.5	10.44	11.00	1.138	-0.1	0.398	0.453
	FR1 n12	15M	DFT-BPSK	1	1	Edge 1	0mm	ON	141500	707.5	10.45	11.00	1.135	0.09	0.171	0.194
	FR1 n12	15M	DFT-BPSK	36	0	Edge 1	0mm	ON	141500	707.5	10.44	11.00	1.138	0.18	0.160	0.182
20	FR1 n12	15M	DFT-BPSK	1	1	Edge 2	0mm	ON	141500	707.5	10.45	11.00	1.135	-0.07	0.569	0.646
	FR1 n12	15M	DFT-BPSK	36	0	Edge 2	0mm	ON	141500	707.5	10.44	11.00	1.138	-0.09	0.542	0.617
	FR1 n12	15M	CP-QPSK	1	1	Edge 2	0mm	ON	141500	707.5	10.16	11.00	1.213	0.02	0.511	0.620
	FR1 n12	15M	DFT-BPSK	1	1	Bottom of Laptop	10mm	OFF	141500	707.5	23.75	24.00	1.059	0.1	0.422	0.447
	FR1 n12	15M	DFT-BPSK	36	0	Bottom of Laptop	10mm	OFF	141500	707.5	23.39	23.50	1.026	0.01	0.410	0.421
	FR1 n12	15M	DFT-BPSK	1	1	Bottom Face	16mm	OFF	141500	707.5	23.75	24.00	1.059	0.06	0.167	0.177
	FR1 n12	15M	DFT-BPSK	36	0	Bottom Face	16mm	OFF	141500	707.5	23.39	23.50	1.026	-0.14	0.144	0.148
	FR1 n12	15M	DFT-BPSK	1	1	Edge 1	7mm	OFF	141500	707.5	23.75	24.00	1.059	0.01	0.060	0.064
	FR1 n12	15M	DFT-BPSK	36	0	Edge 1	7mm	OFF	141500	707.5	23.39	23.50	1.026	0	0.044	0.045
	FR1 n12	15M	DFT-BPSK	1	1	Edge 2	4mm	OFF	141500	707.5	23.75	24.00	1.059	-0.11	0.321	0.340
	FR1 n12	15M	DFT-BPSK	36	0	Edge 2	4mm	OFF	141500	707.5	23.39	23.50	1.026	0.06	0.240	0.246
	FR1 n41 MIMO2	100M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	518598	2592.99	5.92	6.50	1.143	-0.15	0.071	0.081
	FR1 n41 MIMO2	100M	DFT-BPSK	135	0	Bottom of Laptop	0mm	ON	518598	2592.99	5.68	6.50	1.208	0.05	0.067	0.081
21	FR1 n41 MIMO2	100M	DFT-BPSK	1	1	Bottom Face	0mm	ON	518598	2592.99	5.92	6.50	1.143	0.01	0.559	0.639
	FR1 n41 MIMO2	100M	DFT-BPSK	135	0	Bottom Face	0mm	ON	518598	2592.99	5.68	6.50	1.208	-0.09	0.459	0.554
	FR1 n41 MIMO2	100M	CP-QPSK	1	1	Bottom Face	0mm	ON	518598	2592.99	5.06	6.50	1.393	0.04	0.433	0.603
	FR1 n41 MIMO2	100M	DFT-BPSK	1	1	Edge 4	0mm	ON	518598	2592.99	5.92	6.50	1.143	0.03	0.471	0.538
	FR1 n41 MIMO2	100M	DFT-BPSK	135	0	Edge 4	0mm	ON	518598	2592.99	5.68	6.50	1.208	0.01	0.461	0.557
	FR1 n41 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	11mm	OFF	518598	2592.99	23.37	24.00	1.156	0	0.524	0.606
	FR1 n41 MIMO2	20M	DFT-BPSK	135	0	Bottom of Laptop	11mm	OFF	518598	2592.99	23.22	24.00	1.197	0.19	0.490	0.586
	FR1 n41 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	20mm	OFF	518598	2592.99	23.37	24.00	1.156	-0.12	0.538	0.622
	FR1 n41 MIMO2	20M	DFT-BPSK	135	0	Bottom Face	20mm	OFF	518598	2592.99	23.22	24.00	1.197	-0.07	0.450	0.539
	FR1 n41 MIMO2	100M	DFT-BPSK	1	1	Edge 1	0mm	OFF	518598	2592.99	23.37	24.00	1.156	-0.07	0.278	0.321
	FR1 n41 MIMO2	100M	DFT-BPSK	135	0	Edge 1	0mm	OFF	518598	2592.99	23.22	24.00	1.197	0.05	0.246	0.294
	FR1 n41 MIMO2	20M	DFT-BPSK	1	1	Edge 4	20mm	OFF	518598	2592.99	23.37	24.00	1.156	0.04	0.351	0.406
	FR1 n41 MIMO2	20M	DFT-BPSK	135	0	Edge 4	20mm	OFF	518598	2592.99	23.22	24.00	1.197	0	0.284	0.340



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n66	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	344000	1720	12.13	12.50	1.089	-0.11	0.318	0.346
	FR1 n66	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	344000	1720	12.06	12.50	1.107	0.06	0.315	0.349
	FR1 n66	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	344000	1720	12.13	12.50	1.089	-0.08	0.615	0.670
	FR1 n66	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	349000	1745	12.12	12.50	1.091	-0.13	0.590	0.644
22	FR1 n66	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	354000	1770	12.01	12.50	1.119	0.17	0.599	0.671
	FR1 n66	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	344000	1720	12.06	12.50	1.107	-0.02	0.542	0.600
	FR1 n66	20M	CP-QPSK	1	1	Bottom Face	0mm	ON	354000	1770	11.27	12.50	1.327	0.05	0.424	0.563
	FR1 n66	20M	DFT-BPSK	1	1	Edge 1	0mm	ON	344000	1720	12.13	12.50	1.089	0.04	0.330	0.359
	FR1 n66	20M	DFT-BPSK	50	0	Edge 1	0mm	ON	344000	1720	12.06	12.50	1.107	0.01	0.355	0.393
	FR1 n66	20M	DFT-BPSK	1	1	Edge 2	0mm	ON	344000	1720	12.13	12.50	1.089	0.08	0.394	0.429
	FR1 n66	20M	DFT-BPSK	50	0	Edge 2	0mm	ON	344000	1720	12.06	12.50	1.107	-0.09	0.065	0.072
	FR1 n66	20M	DFT-BPSK	1	1	Bottom of Laptop	10mm	OFF	344000	1720	23.78	24.00	1.052	0.11	0.621	0.653
	FR1 n66	20M	DFT-BPSK	50	0	Bottom of Laptop	10mm	OFF	344000	1720	23.61	24.00	1.094	-0.06	0.548	0.599
	FR1 n66	20M	DFT-BPSK	1	1	Bottom Face	16mm	OFF	344000	1720	23.78	24.00	1.052	0.08	0.401	0.422
	FR1 n66	20M	DFT-BPSK	50	0	Bottom Face	16mm	OFF	344000	1720	23.61	24.00	1.094	0.11	0.316	0.346
	FR1 n66	20M	DFT-BPSK	1	1	Edge 1	7mm	OFF	344000	1720	23.78	24.00	1.052	0.08	0.387	0.407
	FR1 n66	20M	DFT-BPSK	50	0	Edge 1	7mm	OFF	344000	1720	23.61	24.00	1.094	0.01	0.341	0.373
	FR1 n66	20M	DFT-BPSK	1	1	Edge 2	4mm	OFF	344000	1720	23.78	24.00	1.052	0	0.041	0.043
	FR1 n66	20M	DFT-BPSK	50	0	Edge 2	4mm	OFF	344000	1720	23.61	24.00	1.094	0.04	0.025	0.027
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	344000	1720	11.67	12.00	1.079	-0.19	0.150	0.162
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	344000	1720	11.41	12.00	1.146	0.05	0.134	0.153
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	344000	1720	11.67	12.00	1.079	0.03	0.487	0.525
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	349000	1745	11.46	12.00	1.132	-0.17	0.575	0.651
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	354000	1770	11.23	12.00	1.194	-0.01	0.533	0.636
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	344000	1720	11.41	12.00	1.146	-0.13	0.392	0.449
	FR1 n66 MIMO2	20M	CP-QPSK	1	1	Bottom Face	0mm	ON	349000	1745	11.06	12.00	1.242	0.08	0.497	0.617
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Edge 4	0mm	ON	344000	1720	11.67	12.00	1.079	-0.18	0.318	0.343
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Edge 4	0mm	ON	344000	1720	11.41	12.00	1.146	0.09	0.315	0.361
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom of Laptop	11mm	OFF	344000	1720	23.95	24.00	1.012	-0.08	0.401	0.406
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Bottom of Laptop	11mm	OFF	344000	1720	23.76	24.00	1.057	-0.13	0.377	0.398
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Bottom Face	20mm	OFF	344000	1720	23.95	24.00	1.012	0.17	0.254	0.257
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Bottom Face	20mm	OFF	344000	1720	23.76	24.00	1.057	-0.02	0.246	0.260
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Edge 1	0mm	OFF	344000	1720	23.95	24.00	1.012	-0.02	0.377	0.381
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Edge 1	0mm	OFF	344000	1720	23.76	24.00	1.057	-0.05	0.351	0.371
	FR1 n66 MIMO2	20M	DFT-BPSK	1	1	Edge 4	20mm	OFF	344000	1720	23.95	24.00	1.012	0.01	0.198	0.200
	FR1 n66 MIMO2	20M	DFT-BPSK	50	0	Edge 4	20mm	OFF	344000	1720	23.76	24.00	1.057	0.14	0.145	0.153
	FR1 n71	20M	DFT-BPSK	1	1	Bottom of Laptop	0mm	ON	136100	680.5	10.65	11.50	1.216	-0.1	0.070	0.085
	FR1 n71	20M	DFT-BPSK	50	0	Bottom of Laptop	0mm	ON	136100	680.5	10.47	11.50	1.268	-0.03	0.069	0.087
	FR1 n71	20M	DFT-BPSK	1	1	Bottom Face	0mm	ON	136100	680.5	10.65	11.50	1.216	-0.15	0.401	0.488
	FR1 n71	20M	DFT-BPSK	50	0	Bottom Face	0mm	ON	136100	680.5	10.47	11.50	1.268	-0.11	0.384	0.487
	FR1 n71	20M	DFT-BPSK	1	1	Edge 1	0mm	ON	136100	680.5	10.65	11.50	1.216	0.06	0.111	0.135
	FR1 n71	20M	DFT-BPSK	50	0	Edge 1	0mm	ON	136100	680.5	10.47	11.50	1.268	0.17	0.102	0.129
23	FR1 n71	20M	DFT-BPSK	1	1	Edge 2	0mm	ON	136100	680.5	10.65	11.50	1.216	-0.15	0.522	0.635
	FR1 n71	20M	DFT-BPSK	50	0	Edge 2	0mm	ON	136100	680.5	10.47	11.50	1.268	-0.01	0.495	0.627
	FR1 n71	20M	CP-QPSK	1	1	Edge 2	0mm	ON	136100	680.5	10.26	11.50	1.330	0.09	0.444	0.591
	FR1 n71	20M	DFT-BPSK	1	1	Bottom of Laptop	10mm	OFF	136100	680.5	23.70	24.00	1.072	0.1	0.417	0.447
	FR1 n71	20M	DFT-BPSK	50	0	Bottom of Laptop	10mm	OFF	136100	680.5	23.63	24.00	1.089	0.03	0.400	0.436
	FR1 n71	20M	DFT-BPSK	1	1	Bottom Face	16mm	OFF	136100	680.5	23.70	24.00	1.072	0.14	0.154	0.165
	FR1 n71	20M	DFT-BPSK	50	0	Bottom Face	16mm	OFF	136100	680.5	23.63	24.00	1.089	-0.1	0.134	0.146
	FR1 n71	20M	DFT-BPSK	1	1	Edge 1	7mm	OFF	136100	680.5	23.70	24.00	1.072	0.06	0.065	0.070
	FR1 n71	20M	DFT-BPSK	50	0	Edge 1	7mm	OFF	136100	680.5	23.63	24.00	1.089	0.14	0.041	0.045
	FR1 n71	20M	DFT-BPSK	1	1	Edge 2	4mm	OFF	136100	680.5	23.70	24.00	1.072	0.14	0.304	0.326
	FR1 n71	20M	DFT-BPSK	50	0	Edge 2	4mm	OFF	136100	680.5	23.63	24.00	1.089	0	0.224	0.244



16.2 WLAN Bluetooth SAR Results

General Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For WLAN SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
6. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6 W/kg and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
7. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	6	2437	15.23	15.50	1.064	100	1.000	-0.03	0.930	0.990
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	1	2412	15.10	15.50	1.096	100	1.000	-0.13	0.886	0.971
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	11	2462	15.13	15.50	1.089	100	1.000	0.17	0.860	0.937
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1	6	2437	15.23	15.50	1.064	100	1.000	-0.09	0.927	0.986
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1	1	2412	15.10	15.50	1.096	100	1.000	-0.01	0.853	0.936
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1	11	2462	15.13	15.50	1.089	100	1.000	-0.11	0.783	0.852
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 1	6	2437	15.23	15.50	1.064	100	1.000	0.06	0.853	0.908
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 1	1	2412	15.10	15.50	1.096	100	1.000	0.17	0.800	0.877
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 1	11	2462	15.13	15.50	1.089	100	1.000	0.03	0.783	0.852
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 2	6	2437	15.68	16.00	1.076	100	1.000	-0.07	1.020	1.098
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 2	1	2412	15.65	16.00	1.084	100	1.000	0.04	1.020	1.106
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 2	11	2462	15.84	16.00	1.038	100	1.000	-0.11	1.090	1.131
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	6	2437	15.68	16.00	1.076	100	1.000	-0.13	1.010	1.087
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	1	2412	15.65	16.00	1.084	100	1.000	0.17	1.030	1.116
24	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	11	2462	15.84	16.00	1.038	100	1.000	0.1	1.110	1.152
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 2	6	2437	15.68	16.00	1.076	100	1.000	0.08	0.902	0.971
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 2	1	2412	15.65	16.00	1.084	100	1.000	-0.09	0.917	0.994
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 2	11	2462	15.84	16.00	1.038	100	1.000	0.11	0.902	0.936



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
25	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	50	5250	13.12	13.50	1.091	98	1.020	-0.05	1.050	1.169
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	58	5290	13.03	13.50	1.114	98	1.020	-0.12	0.972	1.105
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1	50	5250	13.12	13.50	1.091	98	1.020	0.07	0.333	0.371
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 3	0mm	Ant 1	50	5250	13.12	13.50	1.091	98	1.020	-0.03	0.657	0.731
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 2	50	5250	13.48	14.00	1.127	98	1.020	-0.02	0.644	0.740
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 2	50	5250	13.48	14.00	1.127	98	1.020	0.13	0.390	0.448
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 3	0mm	Ant 2	50	5250	13.48	14.00	1.127	98	1.020	-0.13	0.984	1.131
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	58	5290	13.30	14.00	1.175	98	1.020	-0.06	0.897	1.075
26	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	114	5570	12.85	13.00	1.035	98	1.020	-0.01	1.140	1.204
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	138	5690	12.59	13.00	1.099	98	1.020	0.04	0.977	1.095
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 1	114	5570	12.62	13.00	1.091	98	1.020	-0.15	0.172	0.191
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 3	0mm	Ant 1	114	5570	12.62	13.00	1.091	98	1.020	0.08	0.422	0.470
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 2	114	5570	13.11	13.50	1.094	98	1.020	-0.06	0.653	0.729
	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom Face	0mm	Ant 2	114	5570	13.11	13.50	1.094	98	1.020	-0.01	0.264	0.295
	WLAN5GHz	802.11ac-VHT160 MCS0	Edge 3	0mm	Ant 2	114	5570	13.11	13.50	1.094	98	1.020	-0.11	0.939	1.048
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	138	5690	13.27	13.50	1.054	98	1.020	0.09	0.894	0.961
27	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	155	5775	12.64	13.00	1.086	98	1.020	-0.07	0.912	1.011
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Ant 1	159	5795	12.60	13.00	1.096	98	1.020	0.03	0.861	0.963
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	155	5775	12.64	13.00	1.086	98	1.020	0.18	0.194	0.215
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 1	155	5775	12.64	13.00	1.086	98	1.020	0.1	0.577	0.639
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	155	5775	11.16	11.50	1.081	98	1.020	0.11	0.541	0.597
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	155	5775	11.16	11.50	1.081	98	1.020	-0.03	0.136	0.150
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	155	5775	11.16	11.50	1.081	98	1.020	-0.1	0.682	0.752
	Bluetooth	1Mbps	Bottom of Laptop	0mm	Ant 2	78	2480	9.70	10.50	1.202	77.13	1.080	-0.1	0.240	0.312
28	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	78	2480	9.70	10.50	1.202	77.13	1.080	-0.06	0.262	0.340
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	00	2402	8.90	10.50	1.445	77.13	1.080	0.1	0.214	0.334
	Bluetooth	1Mbps	Bottom Face	0mm	Ant 2	39	2450	9.60	10.50	1.230	77.13	1.080	-0.07	0.234	0.311
	Bluetooth	1Mbps	Edge 3	0mm	Ant 2	78	2480	9.70	10.50	1.202	77.13	1.080	0.19	0.196	0.254

16.3 Repeated SAR Measurement

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1st	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	11.25	12.00	1.189		1.000	-0.11	0.927	1.102
2nd	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	11.25	12.00	1.189		1.000	0.08	0.911	1.083
1st	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	ON	26340	1880	12.23	13.00	1.194		1.000	0.04	0.945	1.128
2nd	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	ON	26340	1880	12.23	13.00	1.194		1.000	0.01	0.904	1.079
1st	LTE Band 26	15M	QPSK	1	0	Bottom Face	0mm	ON	26865	831.5	14.80	15.50	1.175		1.000	-0.04	0.952	1.119
2nd	LTE Band 26	15M	QPSK	1	0	Bottom Face	0mm	ON	26865	831.5	14.80	15.50	1.175		1.000	0.14	0.924	1.086
1st	LTE Band 30	10M	QPSK	1	0	Bottom Face	0mm	ON	27710	2310	11.91	13.00	1.285		1.000	-0.06	0.893	1.148
2nd	LTE Band 30	10M	QPSK	1	0	Bottom Face	0mm	ON	27710	2310	11.91	13.00	1.285		1.000	0.1	0.887	1.140
1st	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	56150	3641	12.63	13.00	1.089	62.9	1.006	0.19	1.020	1.117
2nd	LTE Band 48 MIMO2	20M	QPSK	1	0	Bottom Face	0mm	ON	56150	3641	12.63	13.00	1.089	62.9	1.006	0.06	0.989	1.083
1st	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	ON	132572	1770	12.60	14.00	1.380		1.000	-0.07	0.830	1.146
2nd	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	ON	132572	1770	12.60	14.00	1.380		1.000	0.11	0.814	1.124
1st	LTE Band 71	20M	QPSK	1	0	Edge 2	0mm	ON	133322	683	15.73	16.00	1.064		1.000	-0.04	1.110	1.181
2nd	LTE Band 71	20M	QPSK	1	0	Edge 2	0mm	ON	133322	683	15.73	16.00	1.064		1.000	0.07	1.050	1.117

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	11	2462	15.84	16.00	1.038	100	1.000	0.1	1.110		1.152
2nd	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	11	2462	15.84	16.00	1.038	100	1.000	0.04	1.008	1.10	1.046
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	50	5250	13.12	13.50	1.091	98	1.020	-0.05	1.050		1.169
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	50	5250	13.12	13.50	1.091	98	1.020	0.11	1.020	1.03	1.136
1st	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	114	5570	12.85	13.00	1.035	98	1.020	-0.01	1.140		1.204
2nd	WLAN5GHz	802.11ac-VHT160 MCS0	Bottom of Laptop	0mm	Ant 1	114	5570	12.85	13.00	1.035	98	1.020	0.13	1.076	1.06	1.136
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	155	5775	12.64	13.00	1.086	98	1.020	-0.07	0.912		1.011
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	155	5775	12.64	13.00	1.086	98	1.020	-0.04	0.910	1.00	1.008

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/kg$.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45W/kg$, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.



16.4 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required

<ON>

Table with 3 columns: Parameter, LTE Band 41 (Power Class 3), and LTE Band 41 (Power Class 2). Rows include Maximum Tune up Power (dBm), Reported 1g SAR (W/kg), Duty Cycle, Frame Averaged (mW), Linearity SAR(W/kg), and % deviation from expected linearity.

<OFF>

Table with 3 columns: Parameter, LTE Band 41 (Power Class 3), and LTE Band 41 (Power Class 2). Rows include Maximum Tune up Power (dBm), Reported 1g SAR (W/kg), Duty Cycle, Frame Averaged (mW), Linearity SAR(W/kg), and % deviation from expected linearity.

17. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + WLAN2.4GHz Ant 1 + WLAN 2.4GHz Ant 2 + FR1	Yes
2.	WWAN + WLAN2.4GHz Ant 1 + Bluetooth Ant 2 + FR1	Yes
3.	WWAN + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + Bluetooth Ant 1 + FR1	Yes

General Note:

- The Intel AX201D2W (FCC ID: PD9AX201D2) WLAN /BT module is also integrated into Lenove TP00129A host. In this report section 16.2 additional WLAN SAR to evaluated Sim-Tx analysis with WWAN transmitter.
- EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
- The Scaled SAR summation is calculated based on the same configuration and test position.
- The Sim-Tx analysis is choose the worst case SAR from the WWAN main and MIMO2 antenna within the exposure positions, regardless of whether the EN-DC combinations. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation < 1.6W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - The SPLSR calculated results please refer to section 16.2.

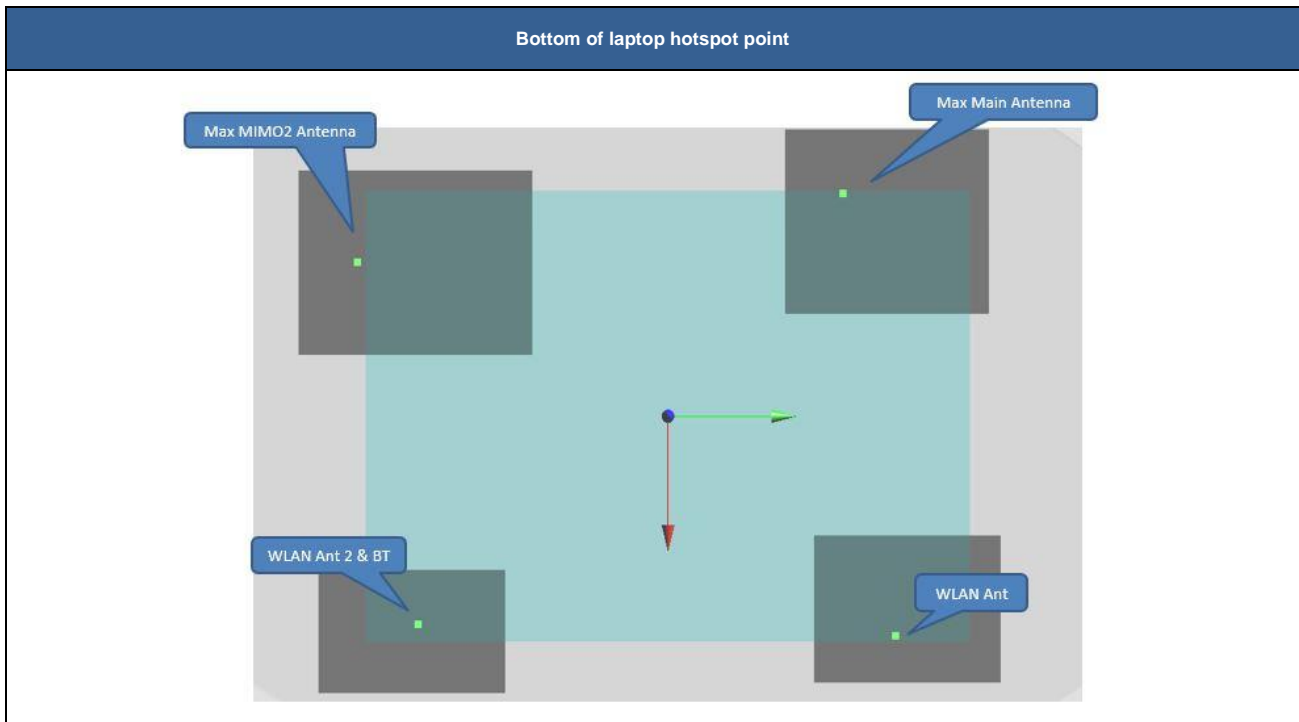
17.1 Body Exposure Conditions

Exposure Position	1	2	3	4	5	6	7	1+2+3+4 Summed 1g SAR (W/kg)	1+2+3+7 Summed 1g SAR (W/kg)	1+2+5+6+7 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Main Ant 1g SAR (W/kg)	Maximum WWAN MIMO2 Ant 1g SAR (W/kg)	2.4GHz WLAN Ant 1 1g SAR (W/kg)	2.4GHz WLAN Ant 2 1g SAR (W/kg)	5GHz WLAN Ant 1 1g SAR (W/kg)	5GHz WLAN Ant 2 1g SAR (W/kg)	Bluetooth Ant 2 1g SAR (W/kg)					
Bottom of Laptop at 0mm	0.532	0.214	0.990	1.131	1.204	0.740	0.312	2.867	2.048	3.002	0.02	Case 1
Bottom Face at 0mm	1.186	1.117	0.986	1.152	0.371	0.448	0.340	4.441	3.629	3.462	0.02	Case 2
Edge 1 at 0mm	0.734	0.381						1.115	1.115	1.115		
Edge 2 at 0mm	1.181							1.181	1.181	1.181		
Edge 3 at 0mm			0.908	0.994	0.731	1.131	0.254	1.902	1.162	2.116	0.02	Case 3
Edge 4 at 0mm		0.971						0.971	0.971	0.971		

17.2 SPLSR Evaluation and Analysis

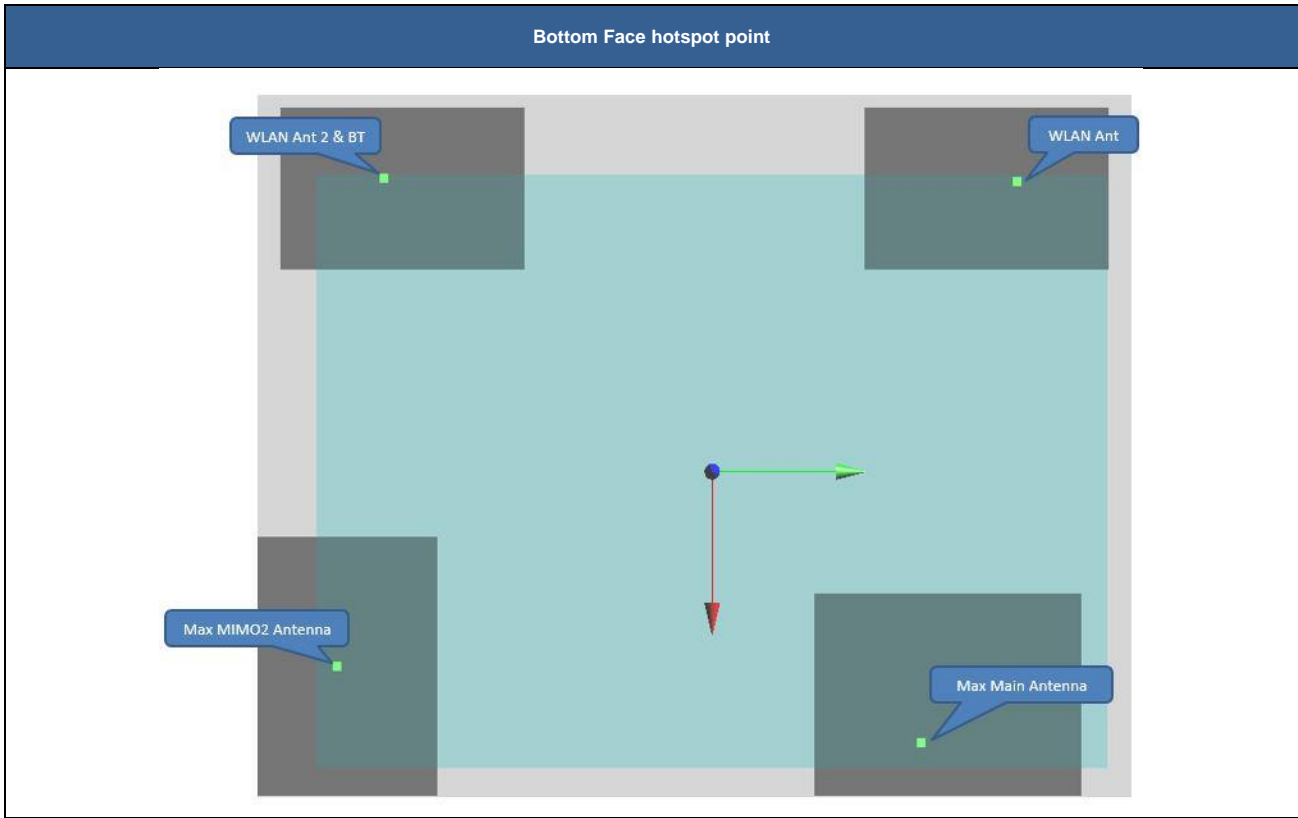
General Note:

1. According to antenna location the minimum distance between each transmit antenna is using for SPLSR analysis
2. Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas.
3. $SPLSR = (SAR1 + SAR2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
4. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.

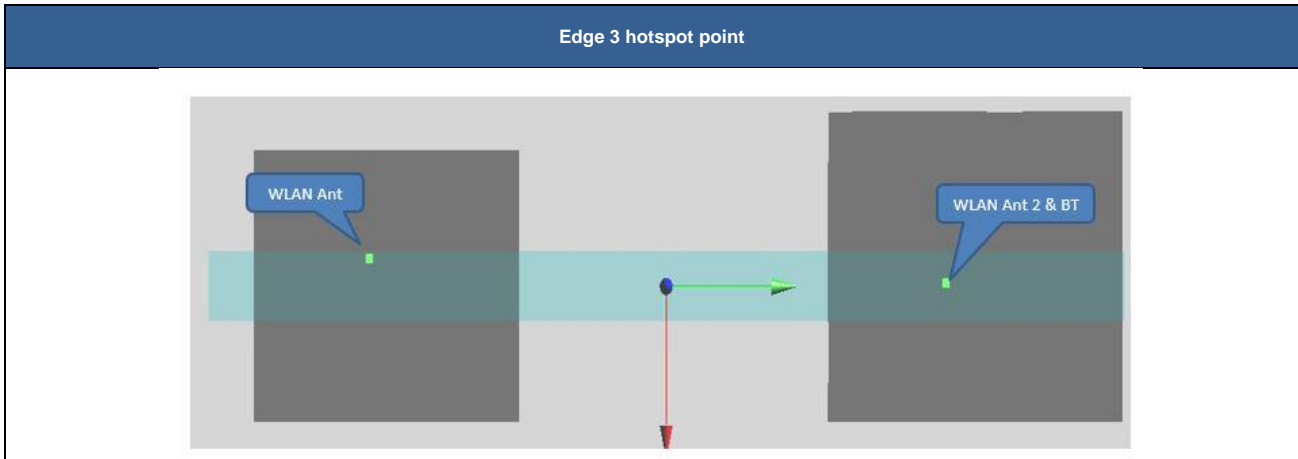




	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D Distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 1	Max Main Antenna	Bottom of Laptop	0.532	0mm	-110.1	90	3.66	255.0	0.75	0.00	Not required
	Max MIMO2 Antenna		0.214	0mm	-68.6	-161.6	4.4				
	Max Main Antenna	Bottom of Laptop	0.532	0mm	-110.1	90	3.66	218.1	1.52	0.01	Not required
	2.4GHz Ant 1		0.990	0mm	106.2	118	4.82				
	Max Main Antenna	Bottom of Laptop	0.532	0mm	-110.1	90	3.66	305.5	1.66	0.01	Not required
	2.4GHz Ant 2		1.131	0mm	101.4	-130.4	5.2				
	Max MIMO2 Antenna	Bottom of Laptop	0.214	0mm	-68.6	-161.6	4.4	329.7	1.20	0.00	Not required
	2.4GHz Ant 1		0.990	0mm	106.2	118	4.82				
	Max MIMO2 Antenna	Bottom of Laptop	0.214	0mm	-68.6	-161.6	4.4	172.8	1.35	0.01	Not required
	2.4GHz Ant 2		1.131	0mm	101.4	-130.4	5.2				
	Max Main Antenna	Bottom of Laptop	0.532	0mm	-110.1	90	3.66	218.6	1.74	0.01	Not required
	5GHz Ant 1		1.204	0mm	108.24	100.42	0.39				
	Max Main Antenna	Bottom of Laptop	0.532	0mm	-110.1	90	3.66	288.6	1.58	0.01	Not required
	5GHz Ant 2 + BT Ant 2		1.052	0mm	104.63	-102.79	-0.47				
	Max MIMO2 Antenna	Bottom of Laptop	0.214	0mm	-68.6	-161.6	4.4	316.1	1.42	0.01	Not required
	5GHz Ant 1		1.204	0mm	108.24	100.42	0.39				
	Max MIMO2 Antenna	Bottom of Laptop	0.214	0mm	-68.6	-161.6	4.4	183.0	1.27	0.01	Not required
	5GHz Ant 2 + BT Ant 2		1.052	0mm	104.63	-102.79	-0.47				
	2.4GHz Ant 1	Bottom of Laptop	0.990	0mm	106.2	118	4.82	220.9	2.12	0.01	Not required
	2.4GHz Ant 2		1.131	0mm	104.63	-102.79	-0.47				
2.4GHz Ant 1	Bottom of Laptop	0.990	0mm	106.2	118	4.82	220.9	1.30	0.01	Not required	
BT Ant 2		0.312	0mm	104.63	-102.79	-0.47					
5GHz Ant 1	Bottom of Laptop	1.204	0mm	108.24	100.42	0.39	203.2	2.26	0.02	Not required	
5GHz Ant 2 + BT Ant 2		1.052	0mm	104.63	-102.79	-0.47					



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D Distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 2	Max Main Antenna	Bottom Face	1.186	0mm	98.9	88.4	4	237.0	2.30	0.01	Not required
	Max MIMO2 Antenna		1.117	0mm	78	-147.6	8.41				
	Max Main Antenna	Bottom Face	1.186	0mm	98.9	88.4	4	209.2	2.17	0.02	Not required
	2.4GHz Ant 1		0.986	0mm	-107.4	123	3.76				
	Max Main Antenna	Bottom Face	1.186	0mm	98.9	88.4	4	302.1	2.34	0.01	Not required
	2.4GHz Ant 2		1.152	0mm	-109.6	-130.2	3.62				
	Max MIMO2 Antenna	Bottom Face	1.117	0mm	78	-147.6	8.41	328.1	2.10	0.01	Not required
	2.4GHz Ant 1		0.986	0mm	-107.4	123	3.76				
	Max MIMO2 Antenna	Bottom Face	1.117	0mm	78	-147.6	8.41	188.5	2.27	0.02	Not required
	2.4GHz Ant 2		1.152	0mm	-109.6	-130.2	3.62				
	Max Main Antenna	Bottom Face	1.186	0mm	98.9	88.4	4	211.2	1.56	0.01	Not required
	5GHz Ant 1		0.371	0mm	-109.4	123.5	4.09				
	Max Main Antenna	Bottom Face	1.186	0mm	98.9	88.4	4	299.0	1.97	0.01	Not required
	5GHz Ant 2 + BT Ant 2		0.788	0mm	-107.55	-127.82	5.1				
	Max MIMO2 Antenna	Bottom Face	1.117	0mm	78	-147.6	8.41	329.6	1.49	0.01	Not required
	5GHz Ant 1		0.371	0mm	-109.4	123.5	4.09				
	Max MIMO2 Antenna	Bottom Face	1.117	0mm	78	-147.6	8.41	186.6	1.91	0.01	Not required
	5GHz Ant 2 + BT Ant 2		0.788	0mm	-107.55	-127.82	5.1				
	2.4GHz Ant 1	Bottom Face	0.986	0mm	-107.4	123	3.76	253.2	2.14	0.01	Not required
	2.4GHz Ant 2		1.152	0mm	-109.6	-130.2	3.62				
	2.4GHz Ant 1	Bottom Face	0.986	0mm	-107.4	123	3.76	250.8	1.33	0.01	Not required
	BT Ant 2		0.340	0mm	-107.55	-127.82	5.1				
	5GHz Ant 1	Bottom Face	0.448	0mm	-109.4	123.5	4.09	251.3	1.24	0.01	Not required
	5GHz Ant 2 + BT Ant 2		0.788	0mm	-107.55	-127.82	5.1				



Case	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D Distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
3	2.4GHz Ant 1	Edge 3	0.908	0mm	-1.38	-99.4	-1.26	202.7	1.90	0.01	Not required
	2.4GHz Ant 2		0.994	0mm	-3.6	103.2	3.62				
	2.4GHz Ant 1	Edge 3	0.908	0mm	-1.38	-99.4	-1.26	201.6	1.16	0.01	Not required
	BT Ant 2		0.254	0mm	0.62	102.23	-1.44				
	5GHz Ant 1	Edge 3	0.731	0mm	-8.59	-99.4	-1.21	201.8	2.12	0.02	Not required
	5GHz Ant 2 + BT Ant 2		1.385	0mm	0.62	102.23	-1.44				



Test Engineer : MC Yang, Jay Jian, Bob Cheng, Willie Huang and Carter Jhuang



18. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

19. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and
- [6] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [9] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.